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A Weekly Journal of Medicine and Surgery

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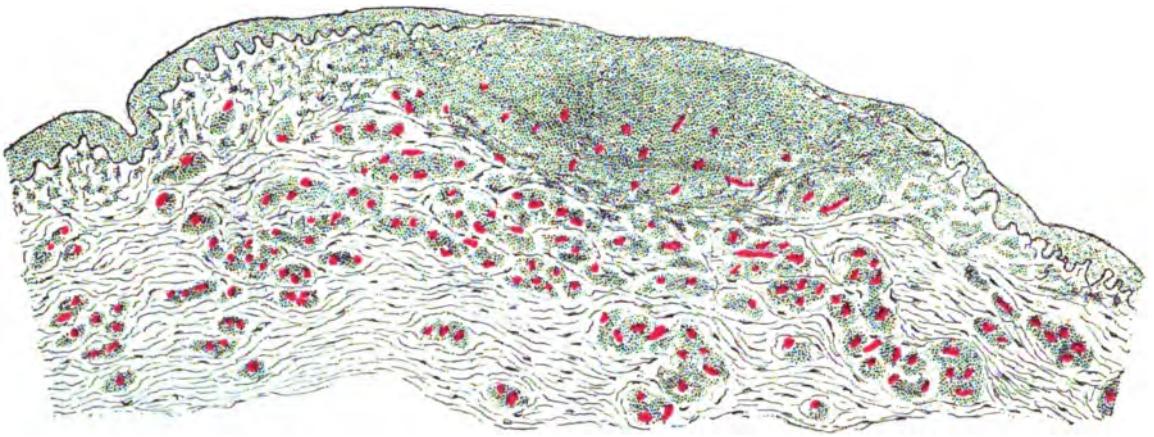

Fig. 1.—Showing the Chancre (at the Right Upper Part) and Small Vessels with the Coat-sleeve Arrangement of the Cell-infiltration in the Deep Connective Tissue under and beyond the Chancre. (Vessels represented by red dots in Figs. 1 and 2.)

Fig. 3.—Showing Dorsal Vein of Penis, which is the Seat of Early Peri- and Endo-phlebitis. (Chancre near glans.)

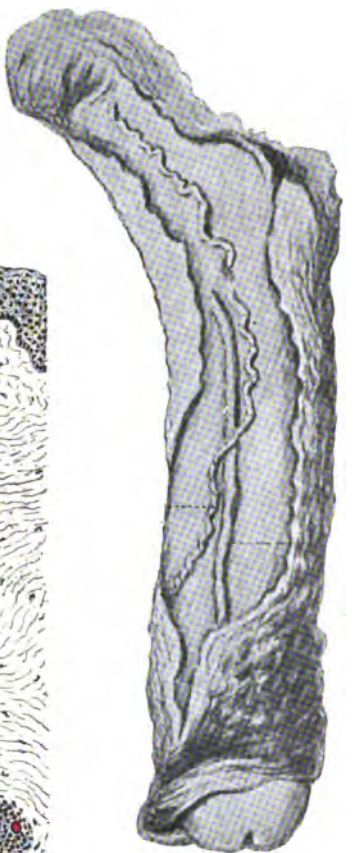

Fig. 4.—Same as Fig. 3. The large cords represent the veins, the more tortuous ones the lymphatics.

Fig. 2.—Showing the Coat-sleeve Arrangement of the Cell-infiltration in the Skin, far away from the Chancre, which to the Eye looks Healthy.

THE ABORTION OF SYPHILIS.—Dr. R. W. TAYLOR.

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Original Articles.

WHY SYPHILIS IS NOT ABORTED BY THE EARLY DESTRUCTION OR EXCISION OF ITS INITIAL LESION.[1]

BY R. W. TAYLOR, M.D.,

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I KNOW of no better text as a prelude to this essay than the following statement recently made by that learned syphilographer of Paris, Dr. L. Jullien. He says:[2] "I believe in the possibility of interrupting or attenuating the course of syphilis at the time of its initial sclerosis, that we should not fold our arms during the period in which a patient's existence is to be decided, or to think that all is lost before anything has been commenced. This is the principle to which reasoning and experience have conducted me." From a very early date the idea of aborting syphilis by various means was entertained by surgeons, and this idea has prevailed until the present day. Ten or twelve years ago excision of chancre as a prophylactic measure was largely practised and the communications are very numerous bearing upon the subject. The consensus of opinion among advanced syphilographers of to day is that the operation is utterly futile, and only a small number, and among them M. Jullien, still cling to the opinion that syphilis may thus be suppressed. In round numbers, in medical literature, about four hundred and sixty odd cases of excision of syphilitic chancres have been reported, and of these one hundred and six have been claimed as being successful. I have held for many years that the operation (useful in some cases as a therapeutic procedure) is utterly valueless as a means of destroying syphilis, and I have been searching for a long time the reason why. It appears to me that I have now learned the reason why thoroughly applied caustic and thermal destruction and generous excision have failed to limit syphilis to its early stage, and I shall here present the evidences of my belief. In order to make the subject clear to those not familiar with the literature of excision of chancre I shall here interpolate four cases, two personal and two reported by other observers, in which, seemingly, under the most favorable circumstances, destruction and excision was performed without in any manner staying the course of the disease. I will first quote two of my own quite numerous cases: A patient came to me with a minute, slightly elevated, excoriated papule, not larger than the heads of four pins. The patient, a young man, was of a very nervous temperament, and very anxious about his sore, which he had seen for the first time that day. Twenty days before he had had connection with a woman whom I examined, and found a disappearing chancre on the right labium minoris, just above the fourchette, and a roseolous syphilide, typical in all particulars, on the body. I informed the gentleman that his sore was in all probability syphilitic in nature. At his request I excised it, taking the following stringent precautions to do the operation thoroughly: Previous to cutting the penis was washed with soap and water and then with carbolic acid water (five per cent.). The sore was touched with pure nitric acid in order to destroy its virus and to prevent its exudation into the adjacent healthy tissues. It was then dusted with calomel, its base transfixed and cut away together with a liberal margin of healthy tissue. The wound, carefully kept from contamination of any kind, healed by granulation in about ten days. In spite of this, induration of the inguinal ganglia commeneed and was typical in extent and hardness thirty days after the operation. Forty-two days after the date of the discovery of the chancre the patient presented general syphilitic manifestations. This case is given in my treatise on venereal diseases.[1]

Another case, and a more recent one, is equally striking in all its features. A gentleman, aged thirty, came to me early in 1889 in great distress of mind concerning a lesion on his penis which he had noticed for the first time the night before while taking a hot bath. The reason of his fear and worry was that a friend had a few days before informed him that he had contracted a hard chancre from a woman with whom he had learned he (my patient) had had intercourse. Upon examination I found on the dorsum of the penis a very minute (one-tenth inch long) fissure of a dull violaceous color. I could discover no change in the inguinal ganglia. At his urgent request I examined the woman and found just within the vagina, in the sulcus to the right of the urethra, a red and inflamed patch, the seat of considerable thickening. In the light of what I found besides, I diagnosticated it as a declining hard chancre, of which I had seen many similar before. There was marked inguinal adenitis and a very faint disappearing roseola, a mucous patch on the right pillar of the fauces, and a slight falling out of the hair. The certainty of the syphilitic nature of the sore on the patient's penis, which appeared seventeen days after coitus, being so convincing, its probable character was announced to him. The condition of the skin of the penis was such that the little fissure could be cut away by means of a very liberal elliptical incision, and no harm would be done to the integrity of the organ. Under the most careful technique, with thorough antisepsis, I excised a piece of skin half an inch wide and three-quarters of an inch long on the evening of the day upon which the fissure was first noticed, and seventeen days after the infecting coitus. Examination of the patient was made almost daily. The wound healed kindly under iodoform and gauze, and was not followed by any induration in the minute scar which was formed. It was fully twenty days after the operation that well-marked inguinal adenopathy could be made out. In fifty-two days after the first appearance of the chancre well-marked secondary manifestations were observed.

These cases, and many others which I have thus treated over a period of many years, with a like result, convinced me that even with the most painstaking, early, and generous excision, syphilis could not be suppressed or aborted.

In this connection, to lay emphasis to my remarks, I will quote the old-time case of Berkeley Hill, and the more recent one of Rasori, as they will serve the purpose of cumulative evidence, if such is needed. Berkeley Hill says:[2] "In July, 1858, a gentleman came to me with the following story: That morning, about four o'clock,

[1] Read before the New York Academy of Medicine, May 21, 1891.
[2] De la possibilité d'enrayer la syphilis après l'apparition du chancre induré, Bulletin Médical, 1891, No. 5, p. 35.

[1] Bumstead and Taylor, p. 510. Philadelphia, 1883.
[2] Syphilis and Local Contagious Disorders, pp. 76, 77. London, 1881.

during violent intercourse, he had felt a sudden snap. On awakening a few hours later he found that the frænum had been torn across, and that he had bled freely. This made him anxious to know if there were any means to insure him against syphilis. At 3.30 P.M. of the same day I examined the part and found the frænum torn and the wound slightly swollen, but otherwise quiet enough. Ricord's views were then in vogue—that destruction of the sore within five days of its existence would prevent syphilis, and I assured him that cauterization would remove all danger of the disease. To make sure, I destroyed a considerable layer of tissue with fuming nitric acid. In due time the eschar separated. The surface healed very quickly, and my patient's satisfaction was extreme. This was at the end of July. In the latter part of August he called again and showed me the cicatrix, which he said he had noticed that morning to have altered. It was clearly indurated. Presently the glands in the groin enlarged, general syphilis followed, and lasted a couple of years."

It certainly must be confessed that all the circumstances in this case were very favorable to the annihilation of the syphilitic virus in that torn surface, and that all that energetic cauterization could do had been done without avail. This case stands as a classic, pointing out the futility of very early and active cauterization in preventing syphilis. It must be said, however, that this man tore the most vulnerable part of the penis, where the vessels are very numerous and the lymphatics very extensive and superficially situated. It proves very conclusively that under such conditions syphilis loses no time in gaining a foothold in the system.

Let us us now quote the case of Rasori, which has had much weight in establishing the fact of the inutility of excision as a means of suppressing syphilis. Rasori[1] says: "A lawyer, aged twenty-eight, of robust constitution, came to him in February, 1881, and desired him to examine a woman with whom he had cohabited two hours before and whom he suspected to be syphilitic. Examination showed that she had extensive condylomata lata and a generalized roseola. Twenty-eight days elapsed, during which the anxious man examined himself minutely and bathed his penis so vigorously with antiseptic lotions and nitrate of silver solutions that he almost produced a severe balanoposthitis. On the evening of the twenty-seventh day the mucous membrane seemed normal, but the following morning he presented a little red lenticular papule the size of a hemp-seed on the internal layer of the prepuce toward the right. At the request of the patient Rasori immediately excised the lesion, together with a liberal amount of the surrounding tissues. The wound was irritated by the foolish exploratory manipulations of the patient and did not heal until the twenty-fifth day after the operation. Before this, however, the ganglia had become perceptibly swollen. Forty-eight days after the operation unmistakable generalized manifestations of syphilis appeared."

Gibier and Mauriac also excised chancres forty-eight hours after their appearance, yet syphilis followed in each case. Several other similar cases have been reported in the rich literature of the subject.

In spite of these seemingly convincing results some observers still regarded the chancre as a local lesion and favored an abortive treatment.

Let us now consider my further experience.

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I placed the morbid specimen in the hands of Dr. Van Gieson, with a view of learning all that was possible of the microscopic anatomy of the hard chancre at the earliest period of its development, and also of finding out if possible why it was that in spite of this early and thorough ablation of the prepuce upon which the chancre was seated syphilis had not been suppressed or aborted. At a later date I gave him a prepuce upon the lower part of which, near the frænum, was a typical hard chancre. In this case the incubation had been of sixteen days' duration and the chancre was ten days old when it was excised. Consequently it presented the evidence of an infection which took place twenty-six days previously. In my judgment these two specimens are ample for the purpose of studying the early successive stages of syphilitic infection. I have learned from study years ago that when fully matured the initial sclerosis does not lend itself readily to microscopic examination. The tissues become so dense and compact that a clear idea cannot very often be gained of the relation of the composing structures. The microscopical appearances of these specimens is thus given by Dr. Van Gieson:

"*Microscopical Examination.*—In the first case there is a circumscribed mass of tissue, resembling in structure ordinary granulation tissue, about one-eighth of an inch in diameter, in the upper layers of the skin. The epidermis

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over this patch of tissue has the structure of a scab and in places is absent, so that the patch has the appearance of a small and very superficial ulcer. This ulcer is sharply circumscribed and there is but little diffuse infiltration of the surrounding skin, which is very nearly normal, except for the condition of the blood-vessels, which are uniformly and universally changed throughout the whole section for a considerable distance on either side of the lesion.

"This change in the blood-vessels consists in the distention of the perivascular spaces with small round cells (Fig. 1). Nearly every vessel in the section, both arteries and veins, are in this way enveloped by masses of small round cells, forming a sheath like a coat-sleeve around the arm. A few of the vessels do not have this investment. These are usually the larger arteries and veins.

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"The great value of the first specimen is the very early stage of the infection, where the distribution of the tissue composing the lesion is so limited and circumscribed that the stage of development and arrangement of the perivascular cell investments can be studied clearly and fully. In chancres of later duration the diffuse infiltration of the skin is extensive and condensed, and it obscures the study of the blood-vessel changes, but even in these later chancres the blood-vessels, either at a distance from the initial lesion or around the edges of a focus of granulation tissue, show the same accumulation of cells in the perivascular spaces.

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"The microscopical analysis of the case also shows how it is that the infection of syphilis travels from the primary sore and infects the body. The perivascular spaces are lymph-spaces which communicate ultimately with the inguinal glands and the enlargement of these glands is undoubtedly due to the advancement of this cell proliferation along the perivascular spaces until it reaches these lymph-glands, and possibly the same process extends from the inguinal to another set of glands or lymphatics.

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The foregoing facts can be very clearly understood by the study of Figs. 1 and 2. In the central upper part of Fig. 1 the chancre is shown, composed of a mass of small round cells. It seems to be quite sharply marginated and on each edge to be still covered with epithelium. Well down under the chancre the small veins are seen to be involved and surrounded by their coat-sleeve like sheath of small round cells. The blood-vessels are shown in this figure as red spots, and the black dots around them correspond to the proliferated cells, which are placed in the manner already described. Then beyond the margin of the chancre we find the same condition of the vessels in skin which to the eye seemed normal. Therefore in this figure (No. 1) we see that as early as the fourth day of its appearance the chancre is well on its way to full development. But, further than this, it is apparent that the same morbid process is scattered around and beyond its margin. If the specimen had been studied alone, with a view of determining how widely and how deeply we should cut in the prophylactic excision of chancre, we might conclude that taking in considerable space beyond the chancre and deeply down to the fascia would be sufficient. But we pushed the investigation still farther, as shown in Fig. 2. This is an exact representation of sections taken from the skin of the prepuce at points remote from the chancre, a distance of nearly an inch, and which to the naked eye in life looked perfectly normal. In this figure we find the same morbid process going on. The rete is quite thickly studded with the infecting cells, and the vessels in the subcutaneous tissue are also, with one exception, involved in the same process as those near the chancre. At the bottom of the figure there are a number of these infiltrated vessels, a fact which shows how deeply the infective process had extended. There is abundant evidence from many careful observers to prove that the invasion of the syphilitic poison takes place by way of the veins chiefly, in a less degree with the arteries, and also by way of the lymph-spaces. These specimens show this very clearly.

The facts brought out in the examination of the second specimen, representing the infective process twenty-six days old, are fully confirmatory of the results found in Figs. 1 and 2. The specimens show that at a distance of fully an inch and a half from the chancre the cell-changes around the vessels are very marked and in active stage of proliferation.

These studies, therefore, go to show that in the very first days of syphilitic infection, as shown by the chancre after the first period of incubation, the poison is deeply rooted beneath the initial lesion, and that it extends far beyond it; that it is in a most active state and, running along the course of the vessels, it soon infects all the parts beyond, even to the root of the penis. These studies seem to warrant the conclusion that the virus is not localized to its point of entry and that it does not shut itself in by throwing out a dense wall of circumvallation, which later on disappears and allows of the exudation of the morbid products of the heretofore supposed closed-in morbid focus. Clinical and pathological facts go to show that the infective process occurs very rapidly. Berkeley Hill's case comes in here with significant teaching. So rapid had been the infection that very complete destruction of the torn surface only twelve hours after the infecting coitus failed to suppress or abort the disease.

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during violent intercourse, he had felt a sudden snap. On awakening a few hours later he found that the frænum had been torn across, and that he had bled freely. This made him anxious to know if there were any means to insure him against syphilis. At 3.30 P.M. of the same day I examined the part and found the frænum torn and the wound slightly swollen, but otherwise quiet enough. Ricord's views were then in vogue—that destruction of the sore within five days of its existence would prevent syphilis, and I assured him that cauterization would remove all danger of the disease. To make sure, I destroyed a considerable layer of tissue with fuming nitric acid. In due time the eschar separated. The surface healed very quickly, and my patient's satisfaction was extreme. This was at the end of July. In the latter part of August he called again and showed me the cicatrix, which he said he had noticed that morning to have altered. It was clearly indurated. Presently the glands in the groin enlarged, general syphilis followed, and lasted a couple of years."

It certainly must be confessed that all the circumstances in this case were very favorable to the annihilation of the syphilitic virus in that torn surface, and that all that energetic cauterization could do had been done without avail. This case stands as a classic, pointing out the futility of very early and active cauterization in preventing syphilis. It must be said, however, that this man tore the most vulnerable part of the penis, where the vessels are very numerous and the lymphatics very extensive and superficially situated. It proves very conclusively that under such conditions syphilis loses no time in gaining a foothold in the system.

Let us us now quote the case of Rasori, which has had much weight in establishing the fact of the inutility of excision as a means of suppressing syphilis. Rasori[1] says: "A lawyer, aged twenty-eight, of robust constitution, came to him in February, 1881, and desired him to examine a woman with whom he had cohabited two hours before and whom he suspected to be syphilitic. Examination showed that she had extensive condylomata lata and a generalized roseola. Twenty-eight days elapsed, during which the anxious man examined himself minutely and bathed his penis so vigorously with antiseptic lotions and nitrate of silver solutions that he almost produced a severe balanoposthitis. On the evening of the twenty-seventh day the mucous membrane seemed normal, but the following morning he presented a little red lenticular papule the size of a hemp-seed on the internal layer of the prepuce toward the right. At the request of the patient Rasori immediately excised the lesion, together with a liberal amount of the surrounding tissues. The wound was irritated by the foolish exploratory manipulations of the patient and did not heal until the twenty-fifth day after the operation. Before this, however, the ganglia had become perceptibly swollen. Forty-eight days after the operation unmistakable generalized manifestations of syphilis appeared."

Gibier and Mauriac also excised chancres forty-eight hours after their appearance, yet syphilis followed in each case. Several other similar cases have been reported in the rich literature of the subject.

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The cases of Rasori and my own foregoing ones show very clearly that it is utterly futile to rely on excision as

a prophylactic measure after the chancre has appeared. The poison seems to strike at once for the smaller vessels, chiefly the veins, and to run along them with great rapidity, and with exuberant growth. Therefore, contrary to the ideas hitherto held, it is certain that in the first period of incubation the infection is going on rapidly and actively by diffusion, instead of, as we formerly supposed, smouldering in a cold and aphlegmasic manner in a sharply limited space.

To my mind, therefore, the facts presented show very clearly that the infection-process in syphilis is, from the very beginning, one of constant growth and diffusion. In support of this, I think I can with advantage present some results of the study of the so-called lymphatic cord of syphilis, which, according to the old ideas, running from the storage-battery, as we may figuratively here term the chancre, along the dorsum or sides of the penis to the groin, empties into the inguinal ganglia the infectious material gathered up by the radicles. These studies have been made by Dr. Külneff,[1] of St. Petersburg, under the auspices of Professor Tarnowsky, who has excised portions of five of these cords, taken from patients having true hard chancres about the prepuce and glans. These cords varied in size from a knitting-needle to a lead-pencil, and were situated just under the skin in the loose connective-tissue, as we usually find them. The chancres were from a fortnight to two months' duration. The morbid changes found in these excised cords are substantially the same as those shown in my figures, Nos. 1 and 2. Külneff reaches the following conclusions: 1. The cord occurring in cases of primary syphilitic sclerosis results from inflammation of the subcutaneous veins of the penis. In other words, it is a manifestation of syphilitic endo- and peri-phlebitis. 2. The morbid process commences primarily in the vein, probably in its interior, which becomes vascularized and densely infiltrated with epithelial or granulation-cells, accumulating especially on its periphery, close to the muscular coat, where they form thick layers. The endothelium undergoes hyaline degeneration and the vascular lumen is filled up with a thrombosis. Consecutively, both the media and adventitia, as well as the adjoining connective-tissue, becomes intensely infiltrated with granulation-cells, which show a distinct tendency to transformation into young connective-tissue corpuscles. The small-sized veins in the vicinity are found to be blocked up with red blood-corpuscles and surrounded with minute extravasations, while the arteries are seen to be empty or collapsed. 3. The size of the syphilitic cord in the same stage of the process is dependent upon the intensity and extent of the inflammatory process. 4. The tendency of the cell-infiltration to pass into young connective-tissue elements seems to point out that the nature of the morbid process is identical with that of the initial syphilitic sclerosis. 5. The development of the cord should be regarded as an early manifestation of vascular lesions in syphilitic patients.

The gross appearances of these cords, and their relation as to the size of the lymphatics, is well shown in Figs. 3 and 4, which are exact reproductions from Külneff's essay.

It will be seen that the results of the examinations of my cases of very early syphilitic infection dovetail completely and conclusively with those of Külneff, who studied tissues farther up the penis which were the seat of older infection. The conclusion is warranted, I think, that the changes which take place in the chancre and small radical vessels run up quite promptly to the larger efferent vessels and largely through them is the poison carried into the system.

Ricord,[2] in his later years, has said that he considered the destruction of the infecting chancre as absolutely useless (in a prophylactic sense), no matter how early it is done. That it is certain that even before its appearance that syphilis exists, and that even if the entire penis should be amputated before the chancre showed itself syphilis would follow nevertheless. This certainly is a rather broad statement, but in a measure it is warranted by the facts which have just been developed.

In this essay I have sought to show why syphilis is not aborted by excision of its initial lesion with a liberal slice of the surrounding parts. The reason, succinctly stated, is that (contrary to the present view) the syphilitic infective process is from the very start a quite rapid one. That the poison strikes directly for the blood-vessels and causing there its peculiar changes runs along them with astonishing rapidity. Thus it gains a foothold in parts beyond the reach of the knife, the caustics, or electrolysis. In fact, the tissues of the whole penis in very early syphilis are, we may say, honeycombed by these infected vessels. These observations just presented, backed by the evidence of the failures in chancre excision, go to show that beyond the chancre there is sufficient syphilitic poison to infect the whole economy, and that the initial lesion, though the visible and exuberant evidence of syphilitic infection, may be removed without in any way altering or modifying the course of the disease. It is rather too early to inquire into the modus operandi of the maturing syphilitic infection, but it seems probable that this vessel cell-growth goes on and on until the whole economy is involved, and that then the explosion occurs which we call the evolution of the secondary period of the disease.

I am as yet unsettled in my mind as to whether or not these observations will lead to the definite opinion that anti-syphilitic treatment should be instituted just as soon as we positively see the first appearance of the chancre.

40 West Twenty-first Street.

[1] On the Question of the So-called Lymphangitis in the Early Stage of the Primary Syphilitic Sclerosis, St. Petersburg Inaugural Dissertations, 1889.

[2] Oral communication to Leloir: De la Destruction du Chancre comme moyen abortif de la Syphilis, Annales de Dermat. et de Syphilographie, 1881, p. 96.

RIVER BATHS IN WINTER.[1]

By A. ROSE, M.D.,

NEW YORK.

In his inaugural address our President mentioned among other antiseptic remedial agencies of internal medicine that of cold baths; its importance in infectious febrile diseases, its beneficial effect upon the circulation, its power to relieve the hyperæmic brain, thereby restoring consciousness and keeping off stupor, somnolence, and coma.

In contradistinction to this I desire to relate herewith the effects of cold baths in somewhat unusual form upon the healthy individual.

Twelve years ago, or more, I began taking cold baths in the house during the winter, and noticed a greater degree of well-being the colder the water had been; the only trouble I experienced during the first winter was a rheumatoid pain in the right ankle, whenever I had bathed on a cold, rainy day. These pains, at first not severe, remained for days, and inasmuch as they seemed to recur in rainy weather I ceased bathing on such days.

During the second winter the pains became more severe after bathing on rainy days; they appeared suddenly while walking in the street, compelling me to return home with some difficulty.

The application of an ice-bag for about fifteen to thirty minutes would relieve me so that I was able to move about again without impediment. The attacks were entirely confined to the right ankle-joint.

During the third winter, and ever since, I have been entirely free from rheumatoid pain in the right ankle. Bathing in cold water, even during the coldest weather and on rainy days, could be indulged in with impunity.

Until four years ago it had not been suggested as yet — at least I was not aware of its having been stated—that diseases of frigeration and some painful affections of the

[1] Paper read before the German Medical Society of New York, April 6, 1891.

locomotory organs were to be distinguished from real rheumatism.

Aside from these pains I had quite a pleasant experience. Formerly I had frequently been a victim of severe nasal catarrh, but the cold baths had gradually relieved me from the tendency thereto.

Five years ago it so happened that I was called during the month of March to the sea-coast at Rockaway Beach. I had to remain over night, and found lodging in an old barrack in a space having a large opening toward the sea. My couch was hard, other covering than my own clothes was not at hand, and consequently "omnia mecum portans mea," I retired. The night was pretty cold. Accustomed to exposure to weather of all kinds, I was not aware of any discomfort; on the contrary, I felt very well in the fresh sea-air, in spite of the crude surroundings.

During the night I awoke and gazed upon the beautiful moonlit landscape. The sands of the beach appeared like snow, and the surf in the distance seemed like snow-drift, had it not been for its roaring.

At daybreak I went to the beach and immediately plunged into the waves, to the utter surprise of the by-standers, who assured me that I was the first visitor bathing at Rockaway Beach that year.

As a rule any one free from fever will tolerate the cooling process of a cold bath better if such cooling is preceded by increased warmth of the body, or rather by prevented loss of warmth of body. Notwithstanding that this my first cold bath in open air was by no means preceded by increased warmth of my body, I felt much benefited by it.

During the succeeding summer I bathed daily in one of the popular swimming-schools on the East River, and continued my daily swimming exercise until far into January. I interrupted it only in case the snow happened to be too deep and the path to the steep bank too slippery.

The impression as if I needed an extra stimulus in throwing myself into the ice-cold water soon disappeared. Even during such cold days when I had to rub my ears while on my way to the river, I did not hesitate to bathe. I can safely assert that I felt extremely well in the water.

The only unpleasant sensation I experienced in ice-cold water was a sharp pain of hands and feet, compelling me to leave the water after but a few minutes' swim. In order not to suffer too long, I am in the habit of taking with me from home a bottle containing six ounces of warm water, this is poured upon hands and feet as soon as I escape from the water. This very little quantity is sufficient to promote the well-feeling after the cold bath. In fact, the feeling of comfort is extreme; the mind, even if it were depressed, becomes cheerful.

On windy days, if it be not so cold as to cause the wet footprints to freeze while I walk barefooted, I do without a towel, by walking up and down until my skin becomes dry.

My experience does not accord with a well-known rule laid down for bathing in general. A cold river-bath affects me beneficially in case I should be fatigued and tired; after being awake all night, engaged in professional duties, it serves to refresh me mentally and bodily as much or more so than would sleep itself.

The bath is located opposite Blackwell's Island. A boat manned by a guard patrols the river while the prisoners on the island are at work in the quarries. This is toward seven o'clock in the morning, the time I take my bath during the winter months. It often happens that while I am swimming in the water, and this boat is in my vicinity, I converse with the guard. Never, even during extreme cold, did my voice tremble or have I been "out of breath."

As already mentioned, I bathe between six and seven in the morning, even during the shortest days in December, while it is yet dark at that hour.

The increased sensibility, showing itself in shivering and chill in those unaccustomed to cold baths, has entirely left me. During the first years I experienced on extremely cold days, while in the water, a numbness over the surface of the entire body, which remained about one minute. During the past winter I did not have this sensation at all.

As we all know, the tide rises and falls in the East River. At low tide I am compelled to walk through shallow water until I reach a sufficient depth to be able to swim. When still inexperienced I would swim too near the coast, striking my knees or feet on the edges of rocks; but the sensibility of my body was so decreased that I would never feel it until, after leaving the water, I would notice an abrasion or blood.

"Goose-skin" is a condition I never get, either when undressing in the cold air or after the bath.

During the first, and if I recollect rightly, also the second year, I noticed an affection of the spinal cord. namely, a tremor of the lower extremities while dressing, This has left me entirely. Without any trouble I am able to attend to all details of dressing, such as adjusting my necktie.

Once during the second winter I suffered from a cold —pharyngitis and bronchitis.

Large steamers pass up the river, causing large waves to roll in toward the shore. It is a great enjoyment to be tossed about by these. One morning I had just escaped from the water after a bath of the usual duration, about five minutes in cold water, when I noticed a large steamer coming, and in anticipation of another "good swell" I hurried again into the water. It appears that this was too much bathing. Upon going home I failed to notice the beneficial reaction, but, on the contrary, suffered for the next few days from pain on deglutition and a cough which annoyed me day and night—the first and only attack of coughing I have ever had in my life. I had to cease my bathing exercises for the next two weeks.

During the same winter I suffered for a few days with rheumatoid pain in the right shoulder-joint. I had trouble in putting on my coat and overcoat in order to go to the river, and more trouble in taking them off. With the first attempt to swim, all pain left me, and I experienced no difficulty in dressing after the bath. This pain returned several days in succession until it left me entirely. With the exception of the above-mentioned intermission of two weeks, I bathed through the entire winter, also the following one, and the winter of 1889–90; in the latter I had to cease again for about two weeks, having an attack of grip. It will be remembered that the winter was exceedingly mild.

During the first three winters I bathed alone; although there were a number of gentlemen—six, perhaps—who also were enjoying this peculiar winter sport, but they all came at noon. During the past winter I received company—Mr. B., a Hungarian, and Mr. Krug, like myself, a Thuringian. Mr. Krug, who is present, bathed with me throughout the winter, the other gentleman only until January. Both had never bathed in winter in the open air; both were enthusiastic as regards its beneficial influence and the resistance one obtains against the influences of weather. Mr. Krug was formerly very susceptible to cold, inclined to lighter forms of inflammation of the respiratory organs, but has had no such attack this year except once, when he went bathing at an unusual hour and remained unusually long in the water. The result was the same as I had experienced after remaining too long in the water, an uncomfortable, chilly feeling instead of the agreeable reaction, and a rhinitis which lasted for some days. He discontinued swimming for about two weeks.

We had some very cold days—once 16° F.; the coldest day was March 1st, viz., 10° F. One morning the river was entirely covered with floating ice; we were unable to swim, and had to be satisfied with ducking underneath the ice. At one time the path leading to the shore was so covered with ice, that it was with difficulty we got to the bath.

Late in autumn, when the temperature is quite cool, considerable hyperæmia, and even cyanosis, appeared all

over the body while remaining in the water. Especially did this show itself with my comrades, especially Mr. Krug, whose cyanosis appeared sooner and more intensely than with myself. In winter, and hence in a still colder atmosphere, the skin becomes anæmic, but this condition changes into hyperæmia after leaving the water.

During my first year's winter bathing I suffered from an eczema of the lower extremities, accompanied by itching during the night. Mr. Krug suffered from the same inconvenience. An unction of lanolin cured it promptly; otherwise the skin remained intact.

I might mention that the reaction after the bath seems to start from the end of the spinal column; in case of sitting down one has the sensation as if coming in contact with a hot bottle. Seclusion within a warm room half an hour after the bath seemed disagreeable to us.

After the bath the muscular system is refreshed, gaining in elasticity and strength. According to my experience the physiological value and character of the reaction depends upon the incitation of the organic functions; the nerves, the muscular system, and the heart are irritated and react, the increased amount of heat produced and the increased elimination of carbonic acid, that is, an increased combustion of organic elements, is the result of all these reactions. As Jacob and Virchow have observed, a decrease of temperature ushers in the reaction. I must confess that I have not measured my temperature after bathing, but shall do so next winter.

In cases in which there is a certain debility of vital functions, as in children and the aged and anæmic, such reaction naturally does not obtain, and the cooling, the reduction of temperature, predominates.

Liebermeister maintains that some cases of hysteria can only be cured by systematic bathing. A bath is taken daily at the same hour, of fifteen minutes' duration, the temperature of the first bath being at the convenience of the patient; each successive day it is taken one degree less. Exercise is taken out doors or at home after the bath. The temperature of the water is thus gradually decreased to 60° F. If still lowered by the will of the patient, the duration of the bath is proportionately shortened.

This mode of treatment I first adopted in the case of a hysterical American lady in high life. Aside from being a victim of a circumscribed neurosis, for which she had consulted all prominent pathologists in the course of her travels, she suffered from a certain form of hyperæsthesia which one is only accustomed to find among Germans in their native country.

For the benefit of my colleagues who have not lived in Germany, I wish to describe this specific German hyperæsthesia, against which preached and wrote, nearly three hundred years ago, old honest Würtz of Basel. I will name it "'s zieht" ("I feel a draught"). It is laughable when among a crowd of people either within four walls or in a public vehicle somebody pronounces the ominous word "'s zieht." A humorist of the brush would find it a thankful task to depict the effect of this word on the crowd. On some individuals it has the same effect as the word "fire" produces in a filled church or theatre, while others, of more intellectual calibre, express in their faces sarcasm and disgust. The lower classes in Germany invariably call ventilation "zug" ("draught"). Among the educated the enemies of fresh air are rarer. Notwithstanding this fact I heard an American colleague, who had visited the last International Medical Congress, complain how wretched the ventilation had been in those meeting-rooms in Berlin. In a similar strain Professor Preyer, of Jena, complains: "In England, and also in many other countries, the fear of fresh air, wherever many people are gathered together, is hardly known. In Germany this is often manifested to a morbid degree." In German medical journals I often read of "zugigen Räumen" ("draughty rooms") which we would call well-ventilated rooms.

The lady of whom I spoke above had, among other hysterical symptoms, a morbid timidity against any movement of the air, against draught. I ordered Liebermeister's baths, which had a beneficial effect. She seemed to like them, and consequently reduced the temperature far below 60° F. Notwithstanding that she was over fifty years of age, and by no means of robust habit, she lost her sensitiveness to such a degree that she was able to take sea baths late in the fall on days when the water appeared to be too cold to the ordinary bather. The neurosis as well as the hyperæthesia was cured. Instead of shunning draught she exposed herself and seemed to enjoy it.

Although not strictly within the scope of my paper I cannot refrain from saying a few words regarding cold baths as a remedy for diseases in general. The powerful effect of a systematic cold bath in typhoid fever can be well compared with the healing by first intention in aseptic and antiseptic surgery. Liebermeister closed his lecture at the Congress of International Medicine with the following words: "Experience has thus far shown that truly brilliant results in the treatment of serious febrile diseases have been obtained in those cases in which cold baths have been the foundation of therapeutics."

In general it can be said that the cold bath is a true tonic to the heart. It calms the rhythm and elevates the pulse; it corrects the symptoms of weakness, and the weakness itself disappears.

Benecke has shown that baths could be well endured in rheumatism, even if complicated with heart affections. Valvular lesions were cured under their influence within several months after their commencement.

The brothers August and Theodore Schott, in Bad Nauheim, have cultivated a certain method of treating chronic heart diseases by systematic bathing. Their experiences were published in 1880 by August Schott. It is maintained by them that through prudent incitation of the heart the muscular mass of this organ would improve in growth and strength. Under the influence of the bath a continued rapid contraction of the previously dilated heart is obtained, also a strengthening of the pulse and a diminution of all symptoms showing an obstruction of circulation. The aim of all therapeutic action is designated by Schott as a problem to nourish the muscle of the heart, and thereby to increase its hypertrophy and to decrease dilatation.

At the time of my reading the communication of Schott I happened to attend a case confirming the same. An elderly lady had used, of her own accord, without medical advice, sea baths in summer, and during the other seasons cool baths at home, with marked success in bettering her serious complicated heart disease and impeded circulation. It would be quite a thankful task to establish a scientific method of bathing for the pathological conditions of various parts of our system.

In all romantic parts of Europe, more especially in Germany, there are cold-water establishments, and most of them under supervision of scientific physicians. It is to be regretted that almost all we hear of these establishments is confined to advertisement columns.

There can be no doubt that cold baths are a remedy of considerable power, useful or dangerous, as other remedies likewise are, according to indication and mode of using.

Just as much as there exists with some an unwarranted fear against fresh air, there is, in the majority of persons, a dread of cold water. Considerably more than what is done could be accomplished toward the welfare of a great number of patients by gradually strengthening them by the applicatlon of cold baths.

230 Second Avenue.

The Doctor who was Never in.—"A great many people owe their lives to that doctor," said Kicklington. "Is he an able physician?" "It isn't exactly that I referred to. He is never in his office when you want him."

THE AMŒBA COLI IN DYSENTERY AND LIVER ABSCESS, WITH A NEW CASE.

By GEORGE DOCK, M.D.,

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So marked and indubitable are the pathogenic powers of certain of the protozoa that it is rational to seek among those low organisms for clews to the etiological problems that still remain unsolved. The facts now known regarding the occurrence of parasitic amœbæ in man, though not such as to demonstrate their pathogenic nature, are still such as to excite our liveliest curiosity, and the discovery of a new geographical source, opening up a large field of study, cannot be without interest. As previous accounts of the amœba coli are inaccessible to a large proportion of the profession, I think no apology is necessary for the introduction of the following summary.

Aside from an observation by Lambl,[1] amœbæ as parasites of the large intestine were first described by Loesch,[2] in 1873, and named by him amœba coli. The organisms were found in the stools of a patient with chronic dysentery. Improvement in the patient's condition was coincident with the decrease and final disappearance of the parasites from the stools. Loesch injected fæces containing amœbæ into the intestines of four dogs, in three of which there was no effect. In the fourth vomiting and diarrhœa ensued, with speedy recovery, but the stools contained bloody mucus, in which were numbers of amœbæ. The dog was killed on the eighteenth day, and its intestine found inflamed, covered with bloody mucus, and showing three superficial ulcers. In the mucus and in the bottoms of the ulcers were numerous amœbæ. Loesch thought he was justified in assuming that the amœbæ irritate the intestinal mucous membrane, and so hinder the healing of the ulcers.

According to Leuckart, amœbæ were found in the intestine of a child by Sonsino, of Cairo. Grassi and Perroncito [3] found amœbæ in fæces, but attributed no importance to them. The organisms were encountered again in Egypt, by Koch, who found them in sections of the intestines and in stools of dysenteric subjects while carrying on his researches in cholera, in 1883.

In 1885 and the following year [4] Kartulis, of Alexandria, reported his investigations, as the result of which he came to the conclusion that the parasite under consideration is the cause of tropical dysentery. This conclusion was based on the fact that he found the amœbæ in more than one hundred and fifty cases of dysentery, but never in other ulcerative intestinal diseases (enteric fever, tuberculosis), and found them not only in the mucus, but also in the ulcers and deep layers of the intestine in twelve cases in which autopsies were made. In cicatrized dysenteric ulcers the amœbæ were not found. The organisms were similar to those described by Loesch, but differed slightly in size, twelve to thirty micro-millimetres in diameter; Loesch, twenty to thirty-five micro-millimetres. Culture experiments were negative, as were also attempts to infect guinea-pigs and rabbits.

In 1887 Kartulis [5] reported finding amœbæ in dysenteric liver abscess. They were found in sections of the abscess wall, and in one case in the fresh pus. Still later,[6] Kartulis was able to report on a total of more than five hundred cases of dysentery, in all of which he found amœbæ in the stools, but, as before, failed to find them in other diseases. He still held to his opinion of their pathogenic nature, though experiments on monkeys, dogs, rabbits, and guinea-pigs, gave negative results. In this article Kartulis speaks at length of tropical abscess of the liver He distinguishes cases of that disease into two classes—idiopathic and dysenteric, the latter forming fifty-five to sixty per cent. In the idiopathic form various species of pyogenic bacteria were met with. In the dysenteric variety amœbæ were found in all (twenty-two) cases, sometimes accompanied by pyogenic bacteria, and in one case protens vulgaris. Kartulis explains the pathogenesis of the dysenteric liver abscess as follows: "In the ulcers of dysentery the amœbæ often invade all the layers of the gut, and especially the capillaries of the submucosa. From there they wander through the portal vein into the liver, accompanied by detritus, blood-corpuscles, and various micro-organisms. The latter cause suppuration, but only in consequence of the local predisposition set up by the amœbæ, for these, by means of lacerations of blood-vessels, often cause important lesions." That the amœbæ are of great importance in the production of liver abscess is shown by the fact that in Egypt, as elsewhere, typhoid and tuberculous ulcerations of the intestine are seldom complicated by abscess of the liver, and in two cases of intestinal tuberculosis with hepatic abscess Kartulis found only amœbæ in the pus. He claims that the pyogenic microbes die rapidly in the abscesses, whereas the amœbæ remain alive much longer, more than two months.

Histologically, Kartulis distinguishes three zones in the abscess wall. First, the detritus zone, containing fibrin, granules, and amœbæ, seldom bacteria; second, the cell zone, consisting of young cells which stain deeply and between which are broken-down liver tissue, liver cells, and capillaries; third, the boundary zone. Here may be found liver cells compressed together, embryonic vessels, leucocytes, newly formed connective-tissue, and biliary canals. In the vessels are either bacteria or amœbæ.

In a recent communication [1] Kartulis reports the finding of amœbæ in two cases of dysentery in Athens, the organisms resembling in all particulars those studied in Egypt.

An important contribution to the subject is furnished by Massiutin, from the clinic of Professor Loesch in Kief.[2] He found the amœbæ in the stools in five cases. The first was one of chronic dysentery lasting seven years; the second, one of chronic intestinal catarrh, with liquid stools containing small particles of mucus; the third, a convalescent from typhoid fever, with liquid stools and a great deal of mucus; the fourth, acute intestinal catarrh with numerous very mucous stools; the fifth, "chronic intestinal catarrh," with one or two liquid, mucous stools daily. In the first case the amœbæ were very numerous, in the others averaging only one or two in each field. In form and vital characteristics the parasites resembled those described by previous observers, though the individuals varied more in size—six to thirty to thirty-five micro-millimetres.

Massiutin combats Kartulis's view that the amœbæ cause the "bloody diarrhœa, as they are found in other intestinal diseases." He holds that the parasites "reach the intestine with the water, and settle especially in the mucus of the large intestine, provided they find the conditions necessary to their existence." He says, however, that "the intensity of the disease called forth by them depends on the quantity of the amœbæ." "Whether the parasites alone are able, under ordinary circumstances, of producing diarrhœa and intestinal ulcers, even superficial ones, must be left to the future to decide. The experiment of Loesch is not decisive, as he used fæces, not pure cultures." "The presence of ulcerative processes in the intestines seems very favorable for the development of the amœbæ, and the latter appear to keep up the catarrh by their irritative action, and to hinder the healing of the ulcers."

There are evident contradictions in the abstract of Massiutin's article which are difficult to reconcile. Kartulis very properly takes the ground that Massiutin is not justified in assuming that his cases were not all dysenteric because of the absence of certain smyptoms; but it is rather

[1] Prager Vierteljahresschrift, 1859, quoted by Nothnagel, Phys. u. Path. des Darmes, p. 110.
[2] Virchow's Archiv, Bd. 65, p 196.
[3] Gazz. Med. Ital.—Lomb., 1879.
[4] Virchow's Archiv, Bd. 99 and 105.
[5] Centralblatt f. Bakt. u. Parasit., ii., No. 25.
[6] Virchow's Archiv, Bd. 118.

[1] Centralblatt f. Bakt. u. Parasit., 1890, i., p. 54.
[2] Wratsch, 1889, No. 25, Abstract in Centralblatt f. Bakt. u. Parasit., 1889, Bd. vi., p. 451.

premature to consider them as dysenteric on account of the presence of the amœbæ. The fact remains that the Russian observer furnishes valuable testimony as to the distribution of the amœbæ.

The first report on the presence of the amœba coli in dysentery in the New World was made by Professor Osler.[1]

The patient was a physician, aged twenty nine, for six years a resident of Panama, where he contracted a chronic dysentery. He came north in May, 1889, went to Germany, and in Vienna had a severe recurrence of his disease. He returned to Baltimore in December. Soon after, an irregular fever began, with occasional chilly sensations, sweats, loss of flesh, and sallow complexion. Signs of abscess of the liver developing, the liver was aspirated, incised, and two large abscess cavities found in the right lobe. In the thick, creamy pus Dr. Osler found amœbæ in large numbers. The organisms could be found in the pus removed at the dressings up to the time of the patient's death, two weeks later. "In this case diarrhœa was a marked feature. Tenesmus was rarely present; the frequency of the stools from four to twelve in twenty-four hours. Their character varied much. Sometimes there were large brownish evacuations with little or no mucus; more frequently three to four ounces were passed at a time, and scattered through the brownish liquid mucus blood and small whitish sloughs could be seen. On several occasions the stools seemed to be made up of a gelatinous mucus streaked with blood, and twice large grayish sloughs were found. The amœbæ were rarely found in the brownish liquid stools. In the mucus they were more frequent, but they were met with in large numbers only in the small grayish fragments, portions no doubt of sloughs which were found in variable numbers in almost every mucoid stool."

Dr. Osler goes on to describe the amœbæ, from which it appears that they resembled those of others, though not reaching the maximum size, measuring in his case ten to twenty micro millimetres in diameter.

Dr. Osler concludes by saying that "it is impossible to speak with certainty of the relation of the organisms to the disease. The subject is worthy of extended study, and a point of especial interest will be the determination of their presence in the endemic dysentery of this country."

The following observation demonstrates the presence of the amœbæ in dysentery in a part of the country where that disease is not uncommon:

R. H——, laborer, aged forty-two, living in Temple, Tex., admitted to St. Mary's Infirmary, Galveston, July 16, 1890. Patient was sick two weeks before admission, with fever and diarrhœa. The stools were at no time carefully examined. While in hospital the patient was in the typhoid state. The stools contained mucus and blood at times, and there were colic and tenesmus. Toward the end consolidation of the lower lobe of the right lung came on, with enlarged area of liver, dulness and pain in the right hypochondrium. Abscess of the liver was suspected. The patient sank rapidly, and died July 25th. By the kindness of Dr. F. Hadra, resident surgeon, to whom I am indebted for notes on the clinical history, I assisted at the autopsy, six hours after death.

There was general peritonitis with sero-fibrinous exudate; inflammation of the mucous membrane of the colon from the cæcum downward, with large, ragged ulcers; liver enlarged, pale yellow, anæmic, the right lobe containing an abscess the size of a head at term. The walls of this were ragged and marked off from the surrounding tissue by a serrated hyperæmic area. The cavity contained pale, dirty-yellow matter, of creamy consistency, and putrid, penetrating odor. There was purulent pneumonia of the right lower lobe. The other organs showed no special microscopic changes. Specimens of purulent matter from the liver and colon were put in clean, dry bottles and removed for examination, but owing to the circumstances under which the autopsy was made no other material could be obtained.

Two hours later I examined the specimens. The matter from the liver contained a few broken-down and macerated leucocytes, and occasionally a red blood-corpuscle. The bulk of it was made up of detritus, cocci, long and thick bacilli, and amœbæ. The latter were present in enormous numbers. With a Zeiss DD objective, and the drop spread as thin as possible, there were never less than three, usually ten to fifteen, in every field. As a rule they were hyaline, or less granular than the ordinary amœbæ, so that without careful examination, or noticing the peculiar motion, their real nature might easily have been overlooked. When round, most of them measured twenty to twenty-five micromillimetres, in diameter; the smallest was thirteen micromillimetres, and one much larger than the rest measured thirty-two micromillimetres. In most the endosarc was very finely granular and pale. All were in constant motion, which, however, varied greatly in rapidity. It consisted in the projection of hyaline lobes at one or more points, and usually resulted in the inclusion of granules. The largest one measured had a coarsely granular endosarc with only a narrow rim of ectosarc. This threw out a long straight pseudopod, and by filling it out and repeating the process made steady progress across the field of vision. Most of the amœbæ had vacuoles in varying number; one had included three red blood-corpuscles, and another a leucocyte.

In the mucus from the intestine the amœbæ were present, but not in such great numbers. They were also more granular than those in the liver, and did not reach such large dimensions. The amœbæ remained active in the respective fluids for more than twenty-four hours, having been demonstrated to some of my colleagues in the meantime.

From what has been said we may safely conclude that the amœbæ coli is a parasite with a world-wide distribution. It is not my purpose at present to discuss the pathology of dysentery or liver abscess, principally because, though I have made some investigations with reference to these parasites, I have no new facts to bring forward. The obstacles in the way of ascertaining the possible action of the amœbæ as exciters of disease are many, and at present insuperable, since we know of no way of isolating them. For some time we may well be content with accumulating facts by microscopic study of the products of disease. Notwithstanding the admirable work done by Kartulis we still need more testimony as to their invariable presence in cases of dysentery, or at least in certain varieties of that disease, and their absence in other diseases. Studies on these lines will lead to an increased knowledge of the natural history of both dysentery and "tropical" abscess of the liver, regarding which an amount of confusion exists which experience shows can only be cleared up by thorough etiological studies.

[1] Johns Hopkins Hospital Bulletin, May, 1890, with a summary of the literature. Centralblatt f. Bakt. u. Parasit., 1890, i., No. 23.

From an Amusing Paper on "Our Predecessors, the Barber-Surgeons," read by Dr. Embleton before the Newcastle Society of Antiquaries, we learn that the barbers were fined for trimming their customers on the Sabbath-day, and fines were also imposed when members used "ill words" to each other. For "giving" members the "lie" fines respectively of from three to six pence had been made. Were these excellent rules in force nowa days, and if the proceeds were put into a medical poor-box, instituted *ad hoc*, we should have the nucleus of a very useful charity to assist those left destitute by our less fortunate fellows. A rough calculation, based on the number of infractions committed during the last few weeks, shows that several "most potent, grave, and reverend seigniors" would be mulcted in very substantial sums, and one can only regret that no machinery exists for levying this tribute.—*The Hospital Gazette.*

THE UNITY OF DISEASE.

By J. D. PRETTYMAN, M.D.,

MILFORD, DEL.

Every Pathological Process the Result of Malnutrition.—The human body is an aggregation of cells, each one a complete organism, performing every function and carrying out every essential phenomenon of life; having the power of digestion, expulsion of effete material, interchange of atmospheric gases, absorption of moisture, mobility, etc., all aiding—constituting, indeed—nutrition, and a failure of either resulting in death of the cell. By natural selection every cell contributes force to all of the other cells, and through this co-operation the most intricate and elaborate processes are evolved. Pleasure, pain, every sensation, every emotion, thought itself, is the result of cell activity. Kill the cells, and, according to the extent, you impair and destroy the body. The strength of the part, the health of the body, is as to the vitality of the cells.

By the union of a normal male and female germ element, under natural conditions, man is evolved, and his days are threescore years and ten; by reason of strength he may attain fourscore. The vitality of spermatozoon or ovum may be so far impaired, through defective nutrition, that in the union they may together perish before maturity; the germinal vesicle living and developing only as a result of the vitality conferred upon, and contributed by, the primary elements. Every vital process is concerned in the elaboration of the sperm element. It is not merely a testicular or ovarian formation; it bears the impress of temperament, of brain, of feature; and these may all be brought to light in its full development and maturity. Vigorous bodies cast off vigorous germs, producing offspring that can cope with the vicissitudes of life and grow stronger with the struggle. The physically weak, badly nourished bodies that cannot perfectly elaborate and sustain the living germs, throw off crippled, sickly cells, and the child resulting from such sexual congress is ready to die at the first rude contact with the world. This, in part, will account for the great infantile mortality; passing away because the vital force is sufficient to sustain life but a day or a year; the organization itself defective because the germ from which it was evolved, the seed from which it grew, was defective. A striking illustration is afforded of this in the vegetable kingdom. Seed fall into the ground side by side; watered by the same clouds, warmed by the sun, under the same conditions and environment, one sprouts and dies, another becomes a shrub, a third is the majestic oak. "As ye sow," no less in the animal kingdom than in the vegetable, "so shall ye also reap."

The impression of the male upon offspring is complete in the elaboration of spermatozoon. He cannot further affect the product of conception. Organization, quality of tissue, cell life, is impressed upon the sperm, and it can only be modified by similar female impress upon the ovum. By tempering differences, the two together form a complete, perfect unity of development. If sperm and ovum have received impress of like organizations that quality of body, of tissue, of cell structure and life, will be brought out and emphasized in the resultant offspring. Beyond this the female has a direct influence upon the development of the fœtus that she is bearing in her womb, nourishing and fitting for a mundane existence. If the vitality of the mother is impaired, if the cells constituting her body cannot together form perfect pabulum, the child may perish in utero, or come into the world with a diminished vitality, already expended in the effort to maintain existence, and less than the original germ-elements would have conferred if developed in a different and more congenial environment. Born with a defective organization the child cannot create pure blood, cannot form food for its own sustenance, and the weakened, almost starved cells have but little power of resistance. Normal blood is Nature's perfect food for the very cells which elaborate it. Without it health and vigor cannot be maintained. It is the life-sustaining, liquid tissue; and with its modification so will there be also modification in development and extent of cell-life. The physical peculiarities of gens, or family, as manifest in organization and temperament, are as characteristic and distinct as racial differences. It may even extend so far that individual members may be designated by "the mark," the likeness of father or mother. Begotten by healthy, vigorous parents, nourished by pure blood, one family may go on to maturity in ripe old age, while in another the offspring, created with defective organizations, all pass away in infancy or childhood, the result of impaired nutrition in the parent. Derangements of the system that would prove slight in the former bring the latter to the grave—the nutrition of one perfect, the aggregate power of resistance great, while with the other nutrition is only sufficient to maintain life under favorable environment, the power of resistance slight.

Environment may also modify the natural tendency of organization and cell development. Climate may exert a force upon nutrition in changes of temperature, of atmospheric gases, and moisture. Excessive high or low degrees of heat may impair or destroy the body by interfering with the normal blood-supply, the superficial vascular system contracting and forcing the blood from the surface into the viscera, deranging the circulation and consequently the nutrition of the entire body. The cells can best perform their functions at a temperature of 98½° F., and to maintain this the cells of the blood convey oxygen to the carbonaceous elements introduced into the economy as food product, and by chemical union instituted by a vital process the necessary heat is evolved. Nature's provision for the creation and preservation of animal life is through the co-operative work of the cells of the body. Every function, every phenomenon of life is the effect of cell activity; the life of the cell is, indeed, the life of the body.

Man is the creature of an organization, the resultant of concomitant conditions of germinal development. He cannot escape the predilections and natural tendencies conferred by parent. They may be modified, indeed, by habit and environment, but never wholly overcome. A similarity of tissue, of organic structure, of cell vitality, under the same environment, will develop like physical conditions in offspring as are manifest in parent; and thus "the iniquity," not acquired habit, but nature, cell vitality, "of the father is visited unto the children;" heredity being but natural physical conditions of cell evolution. As the germinal cell is impressed with the vitality of the body from which it issued, in like time and manner the offspring may manifest in development the same morbid conditions of parent, the same tendency to death. Malnutrition, the less than normal aggregate cell force, of parent is brought to light in the feeble, sickly, physical conditions arising in the maturity and growth of the child. Length of days is given to the child with a robust organization, that can create from organic substance perfect food for its own sustenance; pure blood that renews and gives vigor to the cells that they may live out the life, the vital force, imparted by parent. Starved cells cannot live, they can only die. The cells must not only be vigorous themselves, they must also be perfectly sustained. It is perfect nutrition that constitutes health; impaired nutrition is disease; a failure of nutrition, death.

Disease is not merely a natural physical condition arising from defective germ-cell evolution. It may be the effect of other internal or wholly external causes; resulting from any violation of the laws governing development and growth. The blood may become contaminated by introduction into the circulation of foreign elements—a perfect food for the cells, by abnormal changes becoming a poison, preventing nutrition, destroying the cells. Nature is a severe taskmaster and there is no escaping the punishment of physical disobedience. Retribution always comes, and the aching nerve, the throbbing heart,

the weakened muscle reminds us of our failure, protesting against carelessness or excessive indulgence. By an expenditure of vital energy, shortening our days to the same extent, Nature seeks to restore the injured part or organ; until exhausted with the struggle man is no more, physical life is ended, passing away, it may be prematurely, the vital energy used up in efforts at restoration.

A peculiar susceptibility to certain forms of disease may appear in generation after generation, extending to remote ramifications of blood relationship; the "taint" of the parent becoming manifest in the children. Not that specific matter has passed direct from parent, in the process of impregnation, into the germ-cell, inoculating the offspring; but that the germ itself, impressed with the vitality of parent, has developed in evolution a similar physical condition, and like causes acting upon like conditions have produced in parent and offspring like results. This is especially marked in tuberculosis, the children of tubercular parents manifesting a decided susceptibility to bacillary influence, while other children may be altogether exempt from the trouble, in the same environment, apparently possessing immunity. It is simply upon the principle of the survival of the fittest that the bacilli tuberculosis overcome the cells of the body, because of greater vitality, power of resistance. The tubercular deposits are dead cells with micro-organisms feeding upon them. Vigorous bodies, whost perfect cells are perfectly sustained, are not subjects of tuberculosis. If such cells are attacked they destroy and cast out the intruding organisms. With these facts in mind the difficulty of successful treatment becomes evident. A constitutional defect, the result of germinal development, cannot be overcome; we can only look to prevention through destroying the exciting cause. With the tubercular process already begun, with the bacilli in the fluids and tissues of the body, we cannot hope for cure upon any other basis than by increasing the bodily strength, the cell activity, by aiding nutrition. The effect of tuberculin and all such poisons is first manifest upon the weakest cells, destroying those whose power of resistance is least. The tissues constituting a nidus for the micro-organisms are first cast off under its influence because the vitality of the cells is already nearly exhausted and consequently they are the least able to resist the poison. The bacilli live on, the cells of the body die—tuberculin thus aiding the bacilli in the work of cell destruction; first killing the body, and then the micro-organisms.

In incipient phthisis only have beneficial effects been claimed for the remedy, and these cases have been selected and specially prepared by favorable hygienic and dietetic measures for the reception of treatment. Under such conditions alone many would have improved and even recovered, the increased nutrition giving strength to the cells and enabling them to overcome and cast out the bacilli. In advanced stages of the disease, where the bodily cells are exhausted, a little of the poison is sufficient to complete the work of destruction already begun and nearly accomplished by the bacilli.

Syphilis, in a measure, is allied with tuberculosis, resulting from the introduction into the economy of a specific virus or microbe, with local and constitutional effects depending upon the physical condition of the subject inoculated. Prognosis cannot be based upon the appearance of the original lesion, for general infection does not always follow the hard, indurated chancre, while it sometimes follows the "soft sore." Fournier's advice is, "Never diagnosticate chancre by the chancre," however characteristic the lesion never pronounce a patient syphilitic until later manifestations appear. There are, then, venereal lesions in every way resembling true Hunterian chancre, the result of inoculation, which the most skilful and experienced diagnosticians cannot differentiate from chancre, that produce no constitutional infection, mere local ulcerations extending by continuity of structure. General infection does not follow syphilitic inoculation in many of the lower animals; they receive and eliminate the poison without deleterious results. Is it not rational to believe that man, under certain physical conditions, may also possess this immunity, the cells of the body casting out the infection without themselves being overcome and destroyed?

In many cases of undoubted infection the constitutional disturbance is so slight as scarcely to attract attention; a few papules, a mucous patch, a slight sore throat, a little alopecia, and without treatment the symptoms disappear never again to return. "Self-limited," we are told, but why? It is precisely the same infection that assumes in others a most virulent form; with every organ, every tissue involved. Ulcerated throat, phagedenic skin, gummatous muscles, necrosed bones—man becoming loathsome and disgusting in his rottenness. As in diphtheria, scarlet fever, small-pox, and other forms of disease, so in syphilis, one subjected to infection escapes altogether; a second manifests slight general effects; a third passes away; the deleterious effects being inversely to the vitality of the body, the purity of the blood, the nutrition of the cells.

Bright's disease is not simply a result of morbid changes occurring in the kidneys; the entire vascular system is involved, with the primary lesion in the sympathetic ganglia, the governor of the circulatory apparatus. The languid heart, the capillary changes of retina, the infiltrated tissues indicate the condition no less plainly than the nephritis. The nutrition of every structure is, indeed, involved, and it is no more a nephritis than a hepatitis, a bronchitis, or a pneumonitis; the quality and amount of blood-supply affecting every organ and function of the body. It is probably the result of cell-failure in the elimination of effete material. In December, 1890, a gentleman came to me, weak and languid, with general nutritive changes apparent, having been reduced in flesh during six months from one hundred and fifty to one hundred and fourteen pounds. Upon examining his urine I several times found slight traces of albumin with a few casts. He passed from my care, after three weeks of treatment, into the hands of a celebrated physician of one of our Eastern cities. Without even asking for a specimen of urine the physician pronounced the trouble bronchitis; and he was correct, at least as correct as I in calling it nephritis, for neither term designated the true condition. The man had bronchitis, he had nephritis, but he had also something more. They were but symptoms of a general condition, and should have been so regarded and treated. The great error toward which the profession is drifting is specific medication—a remedy for every symptom regardless of the cause. We cannot hope for cure in Bright's disease while all treatment is directed to the kidneys in the administration of diuretics. The morbid change in these organs is not the cause, but the result, of the condition.

Pneumonia is generally attributed to causes arising external to the body; but with two persons subjected to the same environment one develops the disease and the other escapes. There is a predisposing cause in the former that is not present in the latter, for otherwise in both would arise the same morbid condition. It is, usually, in plethoric subjects that such severe forms of inflammation arise; those in whom excretion is not relative to ingestion, the body becoming contaminated with its own excreta and the blood poisoning rather than properly nourishing the cells. With nutrition properly maintained a pathological condition cannot arise; there can be neither anæmia nor hyperæmia; neither atrophy nor hypertrophy. Perfect nutrition means perfect health to the exclusion of disease.

MILFORD, DEL.

Professor von Helmholtz. — President Carnot, of France, has conferred the Grand Officer's Cross of the Legion of Honor on Professor von Helmholtz. It is said that this is the first French decoration conferred upon a German since 1870.

NOTE ON THE INTERNAL USE OF WATER IN THE TREATMENT OF TYPHOID FEVER.

By BEVERLEY ROBINSON M.D.,

NEW YORK.

Despite the objections of many to the systematic use of cold baths in the treatment of typhoid fever, according to the method of Brand, this system has, with little reason to doubt it, accomplished a remarkable number of cures. I was one of those who was loath to believe the evidence in its favor, and this inability on my part to accept what seemed absolute proof to many prominent clinicians was due to the fact that it looked to me, notwithstanding the force of its advocacy, too much as the plea for a specific treatment, suitable and adapted to all cases, under all conditions. Again, I was opposed to the use of these cold baths because I believed I saw harm in them. I thought I could recognize a weak heart made weaker, respiration more rapid and irregular, a nervous system unduly and roughly impressioned, and the entire economy subjected to an unnecessary and seemingly brutal assault to satisfy the exaggerated convictions of a few too enthusiastic observers. I have in a measure changed some of my impressions of a year, or more, since. I have been seeking, however, for a different and more satisfactory explanation than the one which has been received for the manifest utility of cold baths in typhoid fever, and I have likewise sought to discover a less objectionable manner of employing cold water than by immersing a poor sufferer during several weeks, day and night, whenever the temperature reaches 103° F. in the rectum, into a bath of 65° F. Both the explanation and the method have come to me through the experience of Debove, Meigs, Beaumetz, and Cantani. To the former I feel especially indebted, since it was only after reading his remarks before the Medical Society of the Paris Hospitals, on July 25, 1890, following the report of Mr. Merklen as member of a committee appointed by this society to investigate the treatment and mortality of typhoid fever in the Paris hospitals, that I determined to make use of water, given internally, in its treatment. With the exception of Dr. Debove the committee generally accepted the treatment of typhoid fever by means of cold baths and following Brand's method, as the best we had, in view of the very small percentage of deaths which occurred after its use. Dr. Debove alone took exception to the Brand treatment and said that he had treated one hundred and fifty cases of typhoid fever by means of cold water given internally, and that his percentage of deaths was quite as low as that given by Brand and had the advantage of not obliging his patients to undergo a very painful medication. Dr. Debove prescribes no drugs, but he urges his patients to drink water. He gives them six to seven litres in twenty-four hours. Each patient passes his urine into a vessel where it is kept, and if the quantity does not seem sufficient to Dr. Debove he stimulates the zeal of the nurses and, as he says, he does not simply allow his patients to drink, he obliges them to drink. Dr. Debove concludes that many complications in typhoid fever—if not, indeed, all—are the effect of a poison, and the way of elimination of this poison is is through the kidneys. If cold baths act, perhaps they act in promoting diuresis, for this diuresis is noticed by almost all clinicians. Certainly, to my mind, this is a more rational explanation of their usefulness than to say that they are mainly serviceable on account of their antipyretic effects. No doubt the explanation given by Brand himself, and reaffirmed by many foreign observers and by Dr. Baruch in New York, that the beneficial effects of the baths consist mainly in the fact that they restore nervous tone to the general system, and thus favorably modify many secondary symptoms which evidently are closely allied with a lowered condition of the nervous centres, is still in part correct. At the present time, however, in view of some researches that have been made in Europe and reported in our medical periodicals, I am also inclined to the belief that increased diuresis should be obtained in order to promote recovery in typhoid fever cases. A review, indeed, of the histories in which the cold bath treatment is reported, shows that one of the results secured by the method is an augmented urinary secretion. Whether or no, with the increased bulk of the urine there is also a large elimination of sold excrementitious substances I cannot say positively, nor do I believe, until lately, that any exact experiments have been made in regard to this matter. What has now been definitely ascertained is that by the use of antipyretic drugs, such as antipyrine, antifebrin, phenacetin, etc., the specific gravity of the urine is increased during the time they are taken and less uric acid is excreted by the kidneys. The contrary seems to be true of those cases in which the cold baths have been steadily given. Many years ago Meigs [1] made some observations in order to find out, if possible, the quantity of water required by a patient suffering from an acute febrile disorder. In order to accomplish his purpose he had the fluid taken in twenty-four hours by four patients accurately estimated. The first case was one of mild typhoid in a woman sixty years of age. During twenty-one days of the fever the daily average of liquid food consisted of twenty-one ounces of milk, and eleven ounces of beef-tea. About twenty ounces of free water and a little over three ounces of brandy were also taken, making in all fifty-five ounces of fluid for each day. The patient recovered. In the second case of typhoid fever the patient took daily, during fourteen days, sixty ounces of free water, and during four days thirty ounces of water daily. In addition he took each day four pints of milk and one of beef-tea, making the total average of one hundred and thirty three ounces, or eight pints and five ounces. In the third case the average daily amount of free water was fifty-three ounces and added to this four pints of milk and one of beef-tea—total daily average of fluid was one hundred and thirty-three ounces, the same precisely as in the second case.

These cases show very clearly, as Meigs states, the proportion which thirst bears to the heat of the body, for the water taken in the mild case (the first one) was very moderate in amount. In the other two cases the thirst was incessant and the water taken large. The supply of food, also, was much greater in the severe cases, as the waste of the body, by internal combustion, was excessive. Professor Cantani,[2] in his treatment of typhoid fever, considers the slight reductions of temperature obtained by drinking cold water as preferable to the marked antipyresis obtained by a cold bath. He adjoins to cold water by the mouth large injections of cold water, rendered slightly antiseptic, by the rectum. The latter he administers twice daily.

Both of these methods of treatment increase the quantity of urine and diminish its specific gravity, especially the drinking of water, and, as Cantani believes, the antithermic effect is produced more surely than by other hydro-therapeutic methods. It likewise seems evident that the cold water is absorbed in large quantities and then cools the entire body and even the blood. In this manner Cantani considers that the tissues are permeated and cleansed by the water and freed of ptomaïnes, and this takes place without disturbance of any kind, except occasionally a slight chill. Cantani also believes that if cold injections be employed at the beginning of typhoid fever it is possible to abort the disease in very many cases.

Beaumetz regards the promotion of abundant diuresis as one of the elements of success which ought always predominantly to enter into our therapeutics of typhoid fever. He believes that it is useful to favor as much as possible the elimination of the products of organic disintegration. With this object in view it is necessary to give our patients abundant drinks to favor diuresis.

[1] On the Internal Use of Water for the Sick. Philadelphia, 1890.
[2] The Dietetic Gazette, May, 1891.

As Dr. A. H. Smith,[1] in another and very different connection, says so wisely, we are apt in these cases to give freely of albuminous substances, and too often the instinctive craving for simple water to dilute the blood and facilitate its passage through the lungs is met by the constant proffer of milk, beef-tea, etc., in which the water is spoiled for nature's purpose by the addition of unnecessary food. He would have added, doubtless, in typhoid cases that the craving for simple water is to wash out the kidneys, and thus prevent intoxication from retention of the waste of nitrogenous tissues, and to evaporate from the lungs and skin, and thus regulate the abnormal temperature of the body.

On taking charge of my hospital wards at St. Luke's last autumn, I determined to treat my typhoid cases, tentatively at least, with cold water internally. Subsequently this treatment was carefully employed in three cases, apparently of moderate severity. These cases all did well. There was scarcely an untoward symptom. I experienced no difficulty in giving each of them four to six ounces of water every two hours in addition to the three or four pints of milk, that they were taking daily. This amount of fluid caused no disturbance whatever, not even a slight dyspeptic attack, and the patients took it without a murmur. The amount of urine was notably increased in each case and its specific gravity lowered, as I had a right to infer.

These patients gradually recovered their strength and health, and the convalescent period continued most satisfactorily. In a fourth case, begun after this method, I felt obliged to supplement the internal use of cold water by cold baths after Brand's method. This case was one of particular severity. He ultimately recovered, and, so far as I could determine, was benefited by the cold baths. In making the foregoing plea for the internal use of water in treating typhoid patients I do so in the belief that we will thus be carrying out nature's prescription. I do not say that it will prove as efficacious as the method of Brand, but I am hopeful that it may. At all events, it may properly supplement it, and it will have two very great advantages, *i.e.*, it can cause no harm, and is perfectly simple and easy of trial.

[1] The Therapeutic Gazette, p. 4, January 15, 1891. The American Journal of the Medical Sciences, October, 1890.

Clinical Department.

A RARE COMPLICATION OF LABOR.

By W. H. JOHNSTON, M.D.,

BIRMINGHAM, ALA.

Mrs. L——, aged thirty-nine, has been married for more than twenty years; never pregnant before this time. I was called to see her at 11 P.M. Tuesday, May 20th. She was having pains every three to five minutes, and told me she had pains Monday night and all day Tuesday. Upon examination I found the head at the inferior strait, and with two fingers in vagina I could not feel any os uteri. She was very sensitive, and the perineum was somewhat rigid. I left an opiate to be taken if pains became severe, and told them to call me if necessary. I saw her again at 3.30 A.M. Wednesday, and still was unable to find any os uteri on examination. She did not take the opiate, and had slept none during the night. I then gave her fifteen grains of chloral every hour until sleep came, or three doses had been taken.

I believed the os uteri was in the hollow of the sacrum and I could not reach it with two fingers. I saw the patient again at 12 M. She had slept about one hour and a half, and was perfectly comfortable between the pains. The examination revealed no change. Saw her again at 6 P.M, and was informed that water had been dribbling from her. Her pulse had gone up to 120 per minute. I then anæsthetized her, introduced my whole hand into the vagina and examined carefully, and could not find any os uteri. At one point on the anterior wall of the uterus I discovered a slight indentation not larger than an English pea. I got Hanks' hard rubber dilator and after some difficulty succeeded in passing it in there and to the side of the head, and then I introduced my index finger and stretched as much as I could with it, then two fingers, and dilated with them until the os was considerably larger than a silver dollar. The pains continued, and after five hours the os was not quite as large as the opening of a teacup and no caput succedaneum had formed. Pulse 120 and patient restless. I then determined to terminate the labor. My friend, Dr. Sholl, came to my assistance and concurred in my opinion and anæsthetized the patient. I applied the forceps and finished the dilatation of the os with them. Imitating nature as nearly as possible I succeeded in delivering the child in forty-five minutes without any laceration of cervix uteri or perineum. The child was alive and all right. On Thursday morning the bladder had to be catheterized and again in the afternoon. Pulse 110; no fever. Friday morning pulse normal and bladder acting.

This patient stated she had always suffered with cramps at her menstrual periods. She had been treated in New York City some years since for eight months by a prominent gynecologist, but was not relieved, and she was afterward examined by another physician, who is eminent in the profession, and he told her she would never have a baby.

Why did not the os uteri dilate? There was no cicatricial tissue around the os, and to the touch it was precisely like that of the anterior wall of the uterus. There was not entire obliteration of the os or closure, or else the waters could not have dribbled away as they did.

This patient suffered with intense nausea during her pregnancy, and at one time I thought it would be necessary to induce abortion, but fortunately a change for the better took place, and she managed to get along fairly well.

I have never seen or read of a similar case.

A CURIOUS CASE OF VISION DEPENDENT ON THE USE OF BOTH EYES.

By T. F. BLISS, M.D.,

SPRINGFIELD, O.

Edna S——, a bright girl, eight years of age, came to my office December 15, 1890, for an examination of her eyes. She had been in school two years, and during that time had made frequent complaint of poor vision, but little attention had been paid to it. By referring to my notes of an examination of the eyes of thirty-seven hundred children in the public schools of this city, two years ago, I found that I had reported her as having convergent strabismus and hyperopia. At this time there was no apparent strabismus, but her eyes had a staring look and a general choreic tendency and restlessness.

I seated her fifteen feet from Snellen's test-card and began the usual test for vision. As she did not read $\frac{15}{200}$ with the left eye, I sent her toward the card and made my first record, V., L. E. = $\frac{1}{200}$. Seating her again I went through the usual routine with lenses, without finding one that gave any positive improvement in vision.

I repeated the process with the right eye, making a very thorough test, but with no better result than before; during the trial, by going to the card, she had learned the names of some of the largest letters, and would appear to see one when across the room, with some lens, and call it right, but the next minute could not verify the answer. I then took off the glasses and she read "minion" type with both eyes, at six inches, but did not make a single correct answer at fifteen feet, with or without lenses of any kind, and the only record I could make of binocular vision was $\frac{3}{200}$, for distance. I prescribed atropia, gr. iv.; aquæ, ℥j., to be used in the eyes twice a day, and she returned two days later for another trial.

With the ophthalmoscope the fundus appeared normal and both eyes indicated a hyperopia of two dioptries. With the test lenses, however, I was unable to get any better vision than before in either eye; beyond a few correct guesses, she admitted that she saw "only scratches" on the wall. Ignoring all other tests I decided to trust the ophthalmoscope, and put on a pair of glasses of + 2 D., for her to wear a few weeks, hoping for some improvement in vision when the effect of the atropia had passed off. To my surprrse she began reading the larger of the test letters, and after several changes I was able to record V. = $\frac{1}{40}$ with + 1.50 D. lenses. With these glasses on, however, if I covered one eye the other was as helpless as before. She has worn them seven weeks, and during this time I have seen her four times, and, without further details, give this statement as the result of my completed examination. Vision, R. E. = $\frac{1}{200}$. Counts fingers in a space one foot in diameter, on temporal side at fifteen feet. The remaining field of vision is dark, cannot distinguish colors, and at night, by gaslight, even this amount of vision is reduced, as she only has a light-spot as a field of vision, and can only count fingers two feet away. The record for the left eye is exactly the same in detail and need not be repeated. Neither eye was improved by any lens tried. When both eyes were tested together, no definite result was reached until the accommodation was relaxed by atropia, when we found binocular vision = $\frac{1}{40}$ with + 1.50 D. lenses, now improved to $\frac{1}{8}$ for distance, and she reads diamond print without trouble. This is her best vision. If the strength of either lens is changed, she recognizes it at once, and one dioptry plus or minus will shut off sight from one eye, and make the other as helpless as before. There has been a decided improvement in her nervous symptoms since wearing the glasses, and she has attended school without complaint.

In this case atropia and the ophthalmoscope give us a diagnosis of simple hypermetropia, this, when corrected with the proper lenses, gives normal vision and all the conditions of a perfect eye.

A systematic examination of each eye by objective tests and lenses gives amaurosis, temporal hemiopia, contracted field of vision, color blindness, nyctalopia, and low vision in both eyes. I am aware of the fact that a squinting eye may suppress the image, and become as helpless as this, but have never seen two such eyes in company with normal vision between them, and do not recall a report of a similar case; and I find myself asking what compensating relation do these eyes hold to each other that they are so helpless alone, and so perfect together? If she cannot see with either eye, how can she see with both? Where is the latent power that transforms two limited fields of vision, with no idea of color, to an open field, with a perfect color sense? Is the fact of the disappearance of the strabismus of two years ago any evidence that binocular vision is sometimes a necessity to give correct sight, and if so, why has not this fact been made prominent in the teachings and writings of our leading authors, as an exception to the general rule in the systematic examination of the eye for defects of vision?

I have made this report as brief as possible, leaving out details of methods and proofs used to verify the correctness of the examination, and believe that under the rigid tests used any material deception would have been impossible, and submit it to your readers as rare, if not unique.

Three Outbreaks of Rabies have been reported to the State Board of Health in Minnesota lately, one in which the disease was supposed to have affected a cow, and two where dogs were the suspected subjects. The Secretary of the State Board investigated the cases, proving the non-existence of the disease in the cow by examining its brain, and in the case of the dogs making inoculation experiments upon rabbits with emulsions of the spinal cords.

TWO CASES OF HOMONYMOUS HEMIANOPSIA.

By GEORGE J. PRESTON, M.D.,

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THE following cases of hemianopsia, occurring in my service at the City Hospital, present some points of interest, especially as one of the cases furnished an autopsy confirming the diagnosis.

CASE I.—John W. W——, aged fifty-one, laborer. Family and personal history good. About two years before admission into hospital he began to suffer from headache and attacks of vertigo. The headache was at that time only of moderate severity and was usually felt in the frontal region. He says he had occasional attacks of vomiting, though this was by no means a prominent symptom, and may have been simply coincident, as it was elicited by questioning. He complained of some rigidity of the muscles of the neck, and said that at times his head would be thrown violently backward. No attacks of this kind ever occurred during the time he was under my observation. All reflexes were normal and there was no paralysis of either motion or sensation. He complained of some pain in his head, usually rather more frontal than elsewhere, with an area slightly sensitive to moderate percussion with the fingers, in the occipital region and to the left of the protuberance. He said that he thought there was some trouble with his eyes, which proved to be complete right homonymous hemianopsia. The ophthalmoscopic examination made by Dr. Harry Friedenwald showed double optic neuritis; margins of papillæ very much blurred; papillæ pink and very hyperæmic. Arteries somewhat narrowed, veins not much altered but slightly tortuous; background otherwise normal. The patient was a robust, well-nourished man, and was not much incommoded by the few symptoms that have been mentioned. The diagnosis of tumor of the left cuneus was made. The patient was put upon increasing doses of iodide of potassium, with no good results, and then operation was advised. The patient died suddenly, apparently from pressure upon the medulla. The autopsy, made by Dr. Keirle, showed a tumor involving the whole of the cuneus of the left occipital region, and encroaching somewhat upon the precuneus. The tumor involved all of the cortex of the occipital lobe as far as, and probably including, the angular gyrus. It was difficult to decide whether this latter convolution was included in the growth or not, as all the convolutions of the occipital lobe were pressed out of shape. There was no other lesion. Microscopic examination of the tumor showed it to be a spindle-cell sarcoma, originating in the sheaths of the vessels.

CASE II.—John C——, aged forty-seven, blacksmith; specific history, marked arterio-sclerosis. About two years ago, while in good health, he had a moderately severe headache for a day or two, perhaps longer, and suddenly became aware that his sight was in some way affected. He had no loss of consciousness or paralysis. Had attacks of vertigo, and complained of stiffness of his neck. Headache does not trouble him at present, though he occasionally complains of it. Has no local tenderness to percussion of head. Reflexes normal. No vomiting. Says he would be all right if he could only see properly. Has complete right homonymous hemianopsia. Ophthalmoscopic examination, made by Dr. Harry Friedenwald, showed pale disks, arteries and veins narrow. Vision in both eyes, $\frac{1}{4}$. From the history of the case, the condition of the arteries, which were markedly sclerosed, and from the fact that there was no optic neuritis or involvement of either motion, sensation, or cranial nerves other than the optic, the diagnosis of embolism of the left posterior cerebral artery was made. The patient is still under observation.

In the first case the interesting feature was the possibility of relief by an operation. At the time the patient

came under observation, which was only a few weeks before his death, the tumor, as shown by the autopsy, was too large for operation. It might have been possible to have removed it, but it was in a difficult position to reach, and it involved such a large amount of brain substance that the hemorrhage would have been difficult to control. Still it might have been removed. Had an operation been done a year before the patient was seen by me, or, say a year or less after the tumor began to grow, the removal of it would not have been very difficult, as it was probably loosely attached at that time, and small enough to be completely extirpated. The thing that surprised me most in the case was the very few symptoms excited by a tumor involving the greater part of one occipital lobe. The man's mental condition was perfectly good, in fact he had no troublesome symptoms but the visual defect. Both the cases, provided the diagnosis is correct in the second case, go to confirm Wilbrand's observation that the pupil reflex is not interfered with when the lesion is in the occipital cortex or caudad of the corpora quadrigemina.

Progress of Medical Science.

The Nutritive Value of Rectal Injections of Egg Albumin.—The assertions of Voit and Bauer and Eichhorst. to the effect that egg albumin is absorbed by the rectum only in the presence of a certain proportion of chloride of sodium, but is returned unaltered with the fæces if this reagent be absent, has led the author to investigate this point anew, and to make his observations on man, and not on dogs, as his predecessors had done. The experiments were planned with great care, and the quantity of albumin removed from the body, both by the urine and the fæces, was estimated. As the outcome of several series of experiments, the results of which show a great agreement, Huber gives as his conclusion that egg albumin simply beaten up is absorbed by the rectum, but only in very small quantities, and consequently a nutrient enema of this kind possesses hardly any value. When, however, a certain amount of common salt is added (fifteen grains to each egg in the present series of experiments), the quantity of albumin absorbed is doubled. Peptonized egg albumin was absorbed in very slightly greater proportion than that treated with common salt. Of the albumin thus treated with salt, between sixty and seventy per cent. was absorbed, and we, therefore, have in this mixture an extremely valuable material for nutrient enemata. In no case of Huber's were the enemata expelled; nor was albuminuria ever found to occur after their use. —*Medical Chronicle.*

Hydrastis Canadensis.—From a physiological and therapeutic study of hydrastis Dr. Cerna (*The Therapeutic Gazette*) has arrived at the following conclusions: 1. Hydrastine is poisonous to both cold- and warm-blooded animals. 2. The minimum fatal dose of the drug in the common frog (*R. esculenta*) is 0.001 gramme for every thirty grammes of the animal's weight. 3. The minimum fatal dose of the alkaloid in the dog, by hypodermic injection, is 0.50 gramme for every kilogramme of the body-weight. 4. Hydrastine destroys the irritability of the muscular tissue. 5. The alkaloid likewise destroys the excitability of the efferent or motor nerves. 6. Very large quantities produce loss of the functional activity of the efferent or sensory nerve-fibres, and also cause anæsthesia when locally applied. 7. Hydrastine, in small amounts, increases reflex activity by stimulating the spinal cord. 8. Later in the poisoning, by large quantities, hydrastine diminishes reflex action by stimulating at first Setschenow's centre in the medulla oblongata, and afterward abolishes it by paralyzing the spinal cord. 9. The paralysis produced by the drug is due to an action upon the muscles, the motor nerves, and spinal cord. 10. The convulsions of hydrastine are of a spinal origin. 11. Hydrastine destroys the electro-excitability of the cardiac muscle. 12. The alkaloid, in small doses, produces a primary frequency in the pulse-rate, due probably to a stimulating action on the cardiac motor ganglia. 13. In moderate and poisonous amounts it diminishes the number and increases the size of the cardiac beats by an action upon the intracardiac ganglia and the heart-muscle itself. 14. Hydrastine lowers arterial pressure by a direct action on the heart, and also through a paralyzing influence exercised upon the centric vasomotor system. 15. The drug produces at first an increase, and afterward a decrease, in the number of the respiratory movements. 16. Hydrastine kills by failure of the respiration.. 17. The alkaloid lowers bodily temperature. 18. The drug increases peristalsis. 19. In hydrastine-poisoning the salivary and the biliary secretions are largely increased, especially the latter. 20. Hydrastine locally applied produces at first contraction of the pupil; afterward dilatation of the same.

Dangers of Sulphonal.—Although sulphonal is probably one of the safest, as it is one of the most efficacious, among the hypnotics recently introduced, the series of cases published by Bresslauer, of Vienna, show clearly that it has certain dangers. The degree of peril is difficult to estimate, as the patients were lunatics, and were also apparently feeble; but the fact is significant, that out of seventy-seven patients who were treated with the drug, no less than seven showed serious symptoms, and in five of these there was a fatal termination. It ought to be mentioned that the patients had been taking the drug for a considerable time in good doses, and had borne it well until symptoms of disturbance set in, these being great constipation, dark-brown urine, slow, or in some cases rapid but feeble, pulse, discolored patches resembling purpura on the limbs, and great prostration. In the cases which ended fatally, the cause of death was heart-failure, with œdema of the lungs.—*The Lancet.*

Interlobar Pleurisy.—Professor Potain has published a paper dealing with the subject of interlobar pleuritic effusion. A typical case is recorded where pus is periodically evacuated through the bronchi, and in which there are evident signs of fluid effusion in front of the upper lobe of the left lung, but not in the general pleural cavity, the fluid being probably localized by firm adhesions. The diagnosis of such cases is always difficult, and a localized collection of fluid may frequently be mistaken for a solid mass unless due precautions are taken. They commonly occur as interlobar effusions, or as effusions between the lung and the diaphragm. In either case they are almost always purulent. The occurrence of frequent rigors and a dry cough, if not due to congestion or accompanied by signs of a general pleurisy, should always suggest the possibility of interlobar effusion. Physical signs may not at first be present, but show themselves as the fluid approaches the surface. It is usually evacuated through the bronchi, setting up a certain amount of irritative bronchitis in the process. The opening into the lung is usually small and irregular, and it is rare for air to escape from the lung into the abscess cavity. In cases where such escape does take place, it generally happens that putrefactive changes are set up in the fluid which remains behind, and this necessitates an operation to evacuate and disinfect the cavity. In cases such as the one related, where there is no evidence of change taking place in the pent-up fluid, no operative measures are proposed. Unlike a general empyema, the interlobar form shows a marked tendency to spontaneous cure.—*L'Union Médicale.*

Treatment of Pneumonia with Large Doses of Digitalis.—Dr. Petresco, of Bucharest, makes an infusion of sixty grains of powdered digitalis leaves to six ounces of water, a little syrup of orange being added to sweeten it. A

tablespoonful of this mixture is given every half-hour. In spite of the largeness of the dose, he says he has never met with a case of poisoning, and maintains that these doses are therapeutic, and not toxic. The best results are obtained in fibrinous or croupous pneumonia. The author states that if used in the way he describes, digitalis will frequently cut short an attack of true croupous pneumonia. In from twenty-four to forty-eight hours after taking the drug, a certain fall of temperature occurred, from 104° F. to 98° F.; this being accompanied by a decrease in the frequency of the pulse and respiration. The digestive tract was little affected. The most marked changes were noticed in the pulse, which became slow, full, and of high tension. The conclusions to which Petresco has come are as follows:

1. When given in therapeutic doses, digitalis has a direct antiphlogistic action. 2. The dose may be raised as high as from 60 to 120 grains of the leaves given as an infusion within twenty-four hours. 3. This treatment may be continued for from two to four days, if the severity of the case requires it. 4. When improvement takes place in the circulation and respiration, this is speedily followed by a disappearance of all local signs and symptoms. 5. The success of this treatment is confirmed by the statistics. In an elaborate table of statistics Professor Petresco shows the superiority of digitalis over the other methods. Thus the highest mortality in pneumonia (34.5 per cent.) occurred when bleeding was practised, and the lowest (three per cent.) when tonics, alcohol, etc., were employed. When digitalis, however, was administered the mortality sank as low as 2.06 per cent. 6. From an experience of a very great number of cases, both of his own and other medical men, he maintains the doses, as given above, are perfectly harmless. 7. After a comparison of the various methods of treating pneumonia, Petresco affirms that the expectant plan is not only without reasonable foundation, but even dangerous. His experience has demonstrated that an attack of pneumonia may be aborted if the treatment is commenced at the earliest stages of the disease.—*Therapeutische Monatshefte.*

Piperazin.—This substance is said to have the property of dissolving a large proportion of uric acid. One part of the urate of this substance is soluble in about fifty parts of water. Urate of lithia requires three hundred and sixty-eight parts of water to dissolve it; the piperazin salt is, therefore, seven times more soluble than the lithia salt. Piperazin is not toxic and not caustic, and it appears to have advantages over other substances which may be used to act as solvents for uric acid.—*Berliner klinische Wochenschrift.*

Ununited Fractures.—Dr. Sommer has collected from the records of the Zurich Klinik, 16 cases of ununited fractures. The time was from April 1, 1881, to January 1, 1888. Six cases occurred while the patients were under treatment at the hospital for recent injuries. These were from 489 cases of fresh fractures, among which were also 16 cases of delayed union where comminution, necrosis, and suppuration were the causes. The remaining 8 cases were admitted for already established pseudo-arthrosis. The site of the lesion occurred twice in the shaft of the femur, four times in the tibia, three times in the humerus, twice in the forearm, and three times in the radius. Three patients were women, and eleven men. Ages sixteen to seventy years. Etiology: Not from constitutional conditions except, perhaps, in one case of anæmia from excessive hemorrhage combined with severe diarrhœa. The local conditions seemed to be more important causes of non-union: very oblique fractures with tendency to displacement, permanent interposition between fragments of soft parts, insufficient fixation of fragments, etc. The cases which were to be ununited fractures always showed no tendency to union, never merely a yielding of fragment. The results showed great impairment of function. Callus formation was entirely absent in nine; in the other five a mass of connective tissue united the fragments. The duration of these cases from time of injury to treatment was as follows: six within six months; seven, from seven to eleven and one-quarter months; one, two and one-half years. At the operation, isolated cicatrized ends of fragments were found in eight cases; in three others, a fibrous union of fragments. No case of neärthrosis was reported. Mechanical treatment was unsuccessful except in one case, and here the substance between the fragments was subcutaneously ruptured. The operative treatment: In two cases, nails in the connective tissue band of union (Malgaigne); once, no reaction; once, slight fever, marked local pain, subsequent consolidation; in four cases, the Diefferbach method, with the modification of cutting off the ivory pegs at the surface of the bone and leaving them permanently *in situ* (Bidder); resection of ends of fragments in eight cases; six times with silver wire suture. Seven successful results. One case remained unhealed and refused a second operation. In one case, a femur, the upper fragment was cut wedge-shaped, and inserted in the central cavity of the lower. Munk reports the successful treatment of five cases (one a fresh compound fracture, four cases of pseudo-arthrosis), by ivory plugs placed in the medullary canals—one humerus, one femur, and three tibiæ. Three were discharged with firm union; two with union, but still under observation at time of publication. He attributes the result to the fixation of the fragments by the plug, and to the production of osteoplastic inflammation by its presence. The method seems to him to be especially valuable where there is a separation of fragment ends by loss from comminution or other causes, the plug then forming a firm bridge and being the nucleus for callus formation. This fixation is valuable in fresh oblique fractures of the leg. Munk exposes the ends of the fragments, and then fits the ivory plug into the canal, which is previously bored out, if necessary, to admit it. The technique by which the ivory plug is prepared or sterilized is not stated, but the aseptic healing of the wound is considered of vital importance. The plug is not absorbed, but remains indefinitely.—*The Boston Medical and Surgical Journal.*

Intestinal Concretions and Calculi.—In connection with a recent case of the kind published in the *Provincial Medical Journal*, Dr. Reeves writes as follows: Multiple intestinal concretions and enteroliths seem difficult to explain in the present state of our knowledge, unless we assume that the patient must have passed biliary sand, gravel, and small gallstones into the duodenum at various times, and that these became the nuclei of the intestinal calculi, the outer layers of which were formed by deposit from the intestinal walls and contents at different times and at different periods. Intestinal stones are usually single, and when multiple are commonly facetted, though in my case there was scarcely an attempt at this, showing that the calculi were formed independently, and only became related to each other in the sigmoid or upper part of rectum. On removal they were moist, and weighed considerably more than they did a few days after, when the watery part had evaporated. On section—only two or three were cut—there was an attempt at a concentric arrangement, though a radiated appearance from the centre to the periphery predominated. No chemical examination was made, and a microscopical examination of the outer layers showed a felt-like matting of indefinite structure, held together by inspissated intestinal mucus. The average size of these stones was that of an ordinary English walnut, though several were smaller, and two or three larger, the largest being the size of a Tangerine orange. They numbered forty-seven, and a few of them were more or less polished, and in these there was an attempt at facetting, so that both were most probably caused by their probable presence in the centre of the quarry, and by the attrition due to peristaltic motion. Some of them appeared to be more or less porous.

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AN INDICTMENT OF CORROSIVE SUBLIMATE AS A DISINFECTANT.

IN an article entitled "Corrosive Sublimate as a Disinfectant Against the Staphylococcus Pyogenes Aureus," published in the *Johns Hopkins Hospital Bulletin*, Dr. A. C. Abbott brings forward some strong arguments against the efficacy of this agent as an antiseptic. To the employment, he says, of sublimate solutions upon wound-surfaces it is plain that there exist at least two serious objections. First, the albumin of the tissues and fluids of the body tends to diminish the strength of, or indeed renders entirely inert, the solution employed; and second, the integrity of the tissues is materially injured by the application of solutions of this salt.

The first objection cannot be met with certainty, for the surgeon possesses no means by which he can determine the amount of albuminous material with which his solutions are to come in contact, and in any case this large amount of albuminous material is an almost insuperable obstacle to complete disinfection with sublimate. He is, therefore, never in a position to say, *a priori*, that his efforts at disinfection of the wound are or are not successful.

The second objection is equally serious. During the past two years we have had sufficient evidence to lead us to believe that the normal tissues and fluids of the body possess the power of rendering inert many kinds of organisms which may have gained access to them. This function is therefore diminished, or, indeed, may be quite destroyed, by any agent which brings about alterations in the constitution of these tissues. We know that just such changes as those to which we refer are known to follow the application of sublimate solutions. It is plain, then, if we bring about in these tissues a condition of superficial necrosis, the condition following upon the application of sublimate, they are much less able to resist the inroads of infectious organisms than they would have been had they been left in their natural condition.

As a disinfectant, in the strict sense of the word, there are perhaps few substances which possess the property in a higher degree than does corrosive sublimate, but at the same time there is nothing which is employed for this purpose that requires greater care in its manipulation in order to obtain its best results than does this salt. As we have seen, its action is influenced by a number of conditions which in practical application it is difficult, if not quite impossible, to control.

For these reasons we seem hardly justified in continuing to give to it the first place in the list of substances which may be employed practically for the purpose of rendering harmless materials containing the germs of infectious maladies.

THE VALUE OF NOTE-TAKING.

THERE is a wide difference of opinion among practitioners as to the value of note-taking, many doubting whether the habit of keeping careful records of every case met with in practice really pays in the long run, and whether the time so spent could not have been more profitably employed in recreation or in study. Nothing has a more dreary, stale, and "back-number" look than a pile of filled-up records occupying needed space on the bookshelves, and serving apparently no purpose but to accumulate dust. As time goes by the utter worthlessness of these manuscript volumes becomes seemingly more and more evident. Medicine is ever advancing, new methods of diagnosis and new modes of treatment are constantly presenting themselves; and these despised records become even more valueless in our eyes as they bring out more and more clearly the evidence of past ignorance, and show us our former selves in the guise of blind gropers in the dark, so blind and in such black darkness that we did not even suspect it, but believed we were walking securely in the bright light of the noonday of accurate knowledge.

But let us look at them a little more closely. Can they teach us nothing? There is one lesson right here. We smile at the little knowledge of those days, and congratulate ourselves that at last the day has dawned and that we are here to see the bright sun rise. But the morning that looks so bright to us now, how will it look in the noonlight of the future? Will not those that come after smile at us as we smile at our former selves as portrayed in these old note-books? We may be on the right path now, but we have not reached the end, and we may as well practise a little humility, and not be too confidently assertive of the absolute correctness of our present position, for we may, by so doing, be only giving still greater occasion for mirth to our irreverent successors. And further, we can profitably turn to these "back numbers" for other reasons. We are going along so rapidly and continually acquiring information concerning matters of such seemingly great import, that we are in danger of forgetting many things of perhaps smaller moment, yet most necessary to us in our daily work. Indeed, we have already forgotten much that would have been to our profit and the good of our patients to remember, and if we would refresh our memories we need but to return to our notes and see how many little points there are recorded there which we would do well to revive.

If our readers doubt this, they have but to read a most interesting little volume, lately published,[1] in which Sir James Paget recounts the results of an excursion which he recently made through the dusty pages of his old case-books. There is nothing dusty about the book, it reads

[1] Studies of Old Case-Books, by Sir James Paget, Bart. London: Longmans, Green & Co. 1891.

like a record of new discoveries, as indeed it is. It is a presentation by a master hand of a great deal of rare information on practical subjects, and even if, perchance, the reader find nothing that he did not once know, he will, nevertheless, have recalled to him a good deal that he had buried so deep in his memory-case as to hide it away beyond any chance of spontaneous recall. We cannot refer now to any of the most interesting subjects suggested to the author by this re-reading of his old manuscript records, but we shall notice later some of the points presented, not only because they are interesting in themselves, but also to show what wealth there really is in old note books, and how much we can learn by carefully studying them in the light of our present knowledge.

THERAPEUTIC HINTS.

MEDICAL men are sometimes so fascinated with the pursuit of knowledge for its own sake that they lose sight of the one great end and aim of medical study, which is, or should be, the alleviation of suffering and the prolongation of life, as affected by the prevention and cure of disease. The two branches in which these objects are more particularly studied, and to which all other branches are but auxiliary, are hygiene and therapeutics. Hygiene has become in these days a science apart, and one which interests and attracts to itself many earnest students among the laity as well as in the ranks of the medical profession. But therapeutics, the healing art, is one studied and scientifically and safely practised only by the trained physician.

It is true therapeutic scepticism is just now prevalent, and it is very much the fashion to decry drugs, to regard most diseases as incurable, or rather self-curable, and to put faith chiefly in diet and careful nursing, leaving to the vis medicatrix naturæ, the phagocytes, or something else, the cure of the disease. A truly scientific scepticism is commendable, but there is danger of going too far, and incredulity carried to the extreme may become credulity in another form. We may confess that there are many diseases that we cannot yet cure, but we dare not say that they will always be beyond our skill to overcome, veritable opprobria medicorum. It is very possible that the time will come when the therapeutist, basing his researches upon the findings of the bacteriologist and the pathologist, will be able to cure typhoid fever or pneumonia as readily and as certainly as he now relieves many of the aches and pains and other minor ills that afflict humanity. But he will never accomplish this by folding his hands with the quiet resignation of despair. He must have hope and confidence in the ultimate success of his own or others' efforts, and must cure himself of the habit of looking upon disease as an indomitable foe.

Physiology, pathology, bacteriology, and all the other collateral medical sciences, are subsidiary to therapeutics, and a rational method of cure must rest upon the knowledge furnished by them. But while waiting for this knowledge the therapeutist cannot be idle; disease is ever present and he must fight it with the weapons that he has until other and better ones are put into his hands. For this reason empiricism must enter largely into therapeutics, and every physician must be an empiricist to a great extent if he will relieve his patients. Often, indeed, empiricism precedes a scientific knowledge of drug action. It was known that aconite would lower temperature, and the knowledge was acted upon to the relief of suffering long before any explanation of this action was had. We cannot, therefore, despise empiricism nor obstinately refuse to employ a remedy simply because we are as yet unable to give a rational explanation of its curative effect.

In this department of minor therapeutics, if we may so call it, there is much that everyone may learn, and much, too, that most physicians may teach their brethren. Every man has his favorite remedies and his favorite methods of administering them, and he may often do a real service to his fellows in sharing with them the results of his own experience. We have for this purpose opened a new department in the columns of the RECORD, and we invite contributions to it from all our readers. They must be short, in the nature of hints rather than treatises, and practical. Prescriptions, new applications of old remedies, effective methods of administering drugs, practical hints and wrinkles of all sorts that will tend to the comfort and relief of the suffering and the cure of their ills, these are what we want for this column, and what we hope our readers will contribute for the good of all. We shall also present here whatever we may find of this nature floating about in medical literature in this country or abroad. Due credit will be given wherever the source of the information can be traced, and the names of all those who favor us with their contributions will, of course, be given; in fact, we desire that such should be the case, in order that no mistakes in dosage and methods of administration may be made and that due responsibility should be shared regarding the same. The practical usefulness of this department will rest largely with the readers of the MEDICAL RECORD themselves, and relying confidently upon their co-operation we present the first instalment of "therapeutic hints" in this issue.

THE THERAPEUTICS AND PHYSIOLOGY OF BLEEDING.

ACCORDING to Dr. Pye-Smith venesection is indicated in— 1. Cyanosis with distention of the right side of the heart, whether from pulmonary or other obstruction to the circulation. 2. Intense pain of aortic aneurism. 3. Uræmic and prolonged epileptic convulsions. It is contraindicated in fevers, inflammatory disorders, acute pneumonia, hemorrhage, and apoplexy.

The physiology of venesection has recently been studied again by Professor I. M. Dogiel (*Vratch*, in *London Medical Recorder*). His experiments were conducted mainly upon dogs and he comes to the following conclusions: 1. Dogs can survive, without any permanent injury to their health, after having lost from one-seventh to one-half of the animal's total mass of blood at a time. The extraction of two-thirds of the total, however, is invariably followed by death. 2. Blood-letting manifests a sharply pronounced influence on the frequency of the cardiac beats in the case of a moderately large depletion (from one-seventh to one-third of the total quantity of blood), the cardiac action becomes accelerated, while after larger losses it either quickens or becomes slower. 3. Blood-lettings also produce a marked effect on the rhythm and energy of the cardiac contractions (as details). 4. Mild bleedings

(made by means of ten or fifteen leeches) either do not alter the arterial tension, or slightly raise it. More or less considerable arterial bleedings either do not affect the blood-pressure, or are followed by a fleeting initial fall with a subsequent rise, while venesections commonly lower the tension. 5. After moderate depletions "the pulse-wave acquires a periodical character." 6. In the beginning of a bleeding the bodily temperature slightly rises, then sinks about 20° F., and afterward again gradually rises. 7. On repeated depletions (made every three or four weeks) the bodily weight at first increases—and that sometimes "very considerably"—but later on begins to sink. 8. The same holds true with regard to the numerical strength of red blood-corpuscles. 9. On the post-mortem examination of animals dying from bleedings the most prominent feature proves to be a fatty degeneration of the heart and other striated muscles, as well as various viscera. In the course of a discussion, Professor A. B. Vogt and Dr. S. M. Shtcherbakoff have stated that, according to their experiments, bleedings do increase not only the number of red blood-corpuscles, but also the proportion of hæmoglobin.

THE MEDICAL PROFESSION IN RUSSIA.

SOME interesting statistics concerning medical practitioners in Russia have recently been collected by Dr. Grebenschikoff, and published in the official bulletin of the Medical Department in St. Petersburg. From an abstract of the same in *Le Progrès Médical* we gather the following facts concerning our confrères in that country:

The total number of physicians in Russia on July 1, 1890, was 12,521, of which 409 were women. Surgeons of the army and navy made up twenty-one per cent. of this number. Of physicians in civil life about two per cent. are engaged in teaching, ten per cent. are attached to hospitals and other institutions, two and a half per cent. have given up the practice of their profession, fourteen per cent. are attached to the Zemstvos, twenty-five per cent. are practising in the cities, and others are attached to schools, factories, sanitary works, etc. On an average for the entire empire there are 8.4 physicians to every 100,000 inhabitants; but as one-third of all the practitioners are resident in nine of the principal cities, the proportion for the rest of the country is much lower than this; in Siberia, for example, there being only 3.8 doctors to every 100,000 inhabitants. The country districts best supplied with doctors are those on the western frontier, practitioners seeming to prefer, as a rule, those parts in which the Zemstvo has no jurisdiction. The three cities best supplied with physicians are, as would naturally be supposed, St. Petersburg, Moscow, and Odessa. About one-quarter of all the female practitioners are to be found in the three cities just mentioned, most of the remainder being attached to the Zemstvos. Of the men, about twenty-two per cent. are specialists, one-half of these being located in the University towns. As regards nationality, it was found that only a little more than one-half were Russians, one-seventh being Poles, one-eighth Hebrews, and one-thirteenth Germans, the latter being for the most part settled in the Baltic Provinces, where they constitute more than seventy-five per cent. of the total number of practitioners. The average age for men completing their studies is 25.9 years, that for women being 26.8. The oldest man in practice is aged eighty-eight, and the youngest twenty-three; the oldest woman is fifty-seven years of age.

More than two-thirds of the physicians are married, the largest proportion of married men being found among army surgeons, and the smallest among those in civil life. Of the married, sixty-eight per cent. had children, the great majority of them, however, having but one child, although there were twelve happy fathers out of the whole number who had thirteen or more children. There does not appear to be much wealth among our Russian brethren, since but 615 men and 31 women are recorded as possessing real estate or other property. The salary of physicians attached to the public service varies from 200 to 7,000 roubles per annum, the more common figures running between 900 and 1,500 roubles, only two per cent. of those in this service getting more than 3,000 roubles. The average income of a physician practising in St. Petersburg is 2,200 roubles; in Warsaw, 1,500; in Moscow, 1,700; and in Odessa, 3,600. (A rouble is worth about eighty cents.)

Finally, the average age of the Russian physician at the time of death is fifty-one years. Among the causes of death are contagious diseases, including phthisis, 42.3 per cent.; diseases of the nervous system, 14.6 per cent.; of the heart, 6.5 per cent.; of the respiratory organs, nine per cent.; of the digestive organs, 7.3 per cent.; cancer, 5.7 per cent.; old age, four per cent.; and suicide, 3.2 per cent.

News of the Week.

The United States Medical Practitioners' Protective Alliance held its first annual meeting at Baltimore, June 11th and 12th. The Society was incorporated under the laws of Maryland. Officers for the ensuing year were elected and such other business transacted as was necessary to establish the Alliance on a basis of permanence. Addresses were delivered by the officers, and several papers on Alliance work in general were read and discussed.

The American Association of Obstetricians and Gynecologists will hold its fourth annual meeting, at the New York Academy of Medicine, 17 West Forty third Street, Thursday, Friday, and Saturday, September 17, 18, and 19, 1891, under the presidency of Dr. Adam H. Wright, of Toronto. All physicians interested in the discussion of subjects pertaining to abdominal surgery, obstetrics, and gynecology are invited to attend without further formal notice. By order of the Executive Council, WILLIAM WARREN POTTER, M.D., *Secretary*.

American Neurological Association.—The preliminary programme of papers to be read at the Seventh Annual Meetng, to be held at Washington, D. C., September 22, 23, and 24, 1891, is as follows: "A Case of Polio-Myelitis Anterior—Death on the Twelfth Day, with the Account of the Microscopic Examination made by Dr. C. W. Burr," by Dr. Wharton Sinkler, of Philadelphia; "A Contribution to the Therapeutics of Polioymelitis," by Dr. V. P. Gibney, of New York; "Poliomyelitis Acuta Adultorum," by Dr. William C. Krauss, of Buffalo;

"Double Athetosis," by Dr. William Osler, of Philadelphia; 1, "Report, with Specimens, of a Case of Multiple Neuritis;" 2, "Case, with Specimens, of Lead-Poisoning, followed by Locomotor Ataxia, terminating Fatally by Uræmia;" 3, "Exhibition of a Porencephalic Brain;" 4, "Report of Two Cases of Rare Myoclonic Disorder," by Dr. James Hendrie Lloyd, of Philadelphia; 1, "A Case of Thomsen's Disease;" 2, "Removal of Neuroma, followed by Disappearance of Local Anæsthesia of Fourteen Years' Standing," by Dr. G. L. Walton, of Boston; "A Case of Trephining and Excision of the Cortex for Jacksonian Epilepsy," by Dr. W. W. Keen and Dr. Charles K. Mills, of Philadelphia; "The Diagnosis of Certain Forms of Intracranial Syphilis," by Dr. Landon Carter Gray, of New York; "Recent Fissural Diagrams," by Dr. Burt G. Wilder, of Ithaca; "Syphilis of the Spinal Cord," by Dr. Philip Zenner, of Cincinnati; "Lead Poisoning with Special Reference to the Spinal Cord and to Peripheral Nerve Lesions," by Dr. E. D. Fisher, of New York; "Triple Personality," by Dr. Irving C. Rosse, of Washington, D. C.; "A Case of Glosso-Labio-Laryngeal Paralysis, with the Presentation of Specimens," by Dr. Graeme M. Hammond, of New York; "The Virile Reflex in Relation to Clinical and Forensic Neurology," by Dr. C. C. Hughes, of St. Louis; 1, "Facial Hemi-hypertrophy;" 2, "Five Recent Cases of Brain Surgery," by Dr. William A. Hammond, of Washington, D. C.; "A Case of Tumor of the Cerebellum, in which Trephining was Done for the Relief of Pressure," by Dr. Philip Coombs Knapp, of Boston; "Lithæmia Considered in its Relation to Nervous Phenomena," by Dr. C. Eugene Riggs, of St. Paul.

The Kentucky State Board of Health has passed a resolution to place upon the list of medical colleges whose diplomas are to be certified and endorsed for registration under the laws of the State, only such colleges as shall, after the session of 1891–2, exact of matriculates and graduates a minimum of requirements not less than those required by the American Medical College Association.

Professor Stephen Smith, M.D., LL.D.—At the recent commencement of the University of Rochester the honorary degree of Doctor of Laws was conferred upon Dr. Stephen Smith, of this city.

The American Dermatological Association.—The following is the Preliminary Programme of the Washington Meeting of the American Dermatological Association, September 22 to 25, 1891: "President's Address," by Dr. F. B. Greenough, of Boston; "Discussion on Tuberculosis of the Skin," opened by Drs. White and Bowen, of Boston, and Fox, of New York; "A Therapeutic Note on Alopecia Areata," by Dr. L. D. Bulkley, of New York; "The Treatment of Alopecia Areata," by Dr. P. A. Morrow, of New York; "Remarks on Carbuncle, with Report of a Peculiar Case," by Dr. H. G. Klotz, of New York; "Dermatitis Hæmostatica," by Dr. H. G. Klotz, of New York; "Note on Erythema et Nævus Nuchæ," by Dr. C. W. Allen, of New York; "A Case of Lichen Ruber," by Dr. J. Grindon, of St. Louis; "A Case of Lichen Scrofulosorum," by Dr. J. Grindon, of St. Louis; "A Case of Lupus Erythematosus, with Fatal Complications," by Dr. W. A. Hardaway, of St. Louis; "Lymphangioma Circumscriptum, with Report of a Case," by Dr. M. B. Hartzell, of Philadelphia; "Notes of a Case of Acute Dermatitis Exfoliativa," by Dr. J. E. Graham, of Toronto, Canada; "Morphia Atrophica of Wilson," by Dr. R. W. Taylor, of New York; "A Study of Mycosis Fungoides, with Report of a Case," by Drs. H. W. Stelwagon and H. Leffingwell Hatch, of Philadelphia; "Diseases of the Skin Associated with Derangements of the Nervous System," by Dr. W. T. Corlett, of Cleveland; "Prairie Itch," by Dr. L. N. Denslow, of St. Paul; "The Treatment of Pruritus," by Dr. E. B. Bronson, of New York; "Note Relative to Pemphigus Vegetans," by Dr. J. N. Hyde, of Chicago; "The Personal Equation in Dermatology," by Dr. L. D. Bulkley, of New York; "An Unusual Case of Sarcoma Involving the Skin of the Arm—Amputation—Recovery," by Dr. F. J. Shepherd, of Montreal, Canada; "Multiple Sarcomata: History of a Case Showing Modification, and Amelioration of Symptoms with Large Doses of Arsenic," by Dr. S. Sherwell, of Brooklyn; "Thirteen Cases of Tuberculosis of the Skin with Their Treatment," by Dr. J. S. Howe, of Boston; "Treatment of Chronic Ringworm in an Institution for Boys," by Dr. L. A. Duhring, of Philadelphia; "Report of a Case of Universal Erythema Multiforme," by Dr. L. A. Duhring, of Philadelphia; "Notes of a Visit to the Leper Hospital of San Remo," Italy, by Dr. L. A. Duhring, of Philadelphia.—GEORGE THOMAS JACKSON, M.D., *Secretary*.

Trouble in the College of Physicians of Philadelphia.—A despatch announces that the resignations of the Board of Censors of the College of Physicians has been placed in the hands of the Secretary, Dr. Charles W. Dulles. The board consists of Drs. Goodell, Stillé, Hunt, and Da Costa. This action was taken because the college, by a vote of 45 to 40, postponed consideration of the board's recommendation that Dr. Joseph Price, a prominent member of the college, be censured for using slanderous language toward one of the Fellows of the college. It is understood that the final retirement of the board will depend largely upon the action that may be taken by the college at its September meeting. If the college should reconsider its postponement of the question and sustain the Board of Censors, the members may be induced to reconsider their resignations. They are loth to discuss their action, owing to the fact that they feel keenly the disregard by the college of their recommendations. A personal friend of the members of the board, who has discussed the matter with them, said tonight: "The College of Physicians was instituted in January, 1787, and after an existence of one hundred and four years this is the first time that the Board of Censors' recommendations have not been approved."

Hysteria in the Male.—In the article with this title, on page 675, vol. xxxix., the second word should be rarity instead of variety.

Gift to a Medical College.—The Medical Department of Tulane University has been made the recipient of a donation from Mrs. Richardson, wife of the Dean of the College, Dr. T. G. Richardson, of $100,000. The entire donation is intended to be used in erecting a new college building.

How Hot Springs was Not Selected as the Next Place of Meeting of the American Medical Association.—"Rather an amusing incident," writes a correspondent of the *Occidental Medical Times*, "occurred in connection with the Nominating Committee. Some thirty-six delegates, representing as many States, constituted the committee, and when the subject of the next place of meeting came up, there was considerable excitement. Dr. J. M. Keller, of Hot Springs, Ark., a man of considerable force, was extremely anxious that the Association meet next year in that city. Detroit had equally strong representatives, and had evidently done considerable trading to obtain the prize. California's cordial invitation was presented and ably seconded by Dr. Jenkins, of Iowa, President of the State Society. Omaha also wished to have the next meeting. After a half dozen ballots, in which Detroit and Hot Springs led, Hot Springs was selected. Dr. Keller was happy and immediately sent for refreshments at $5 a bottle, and dispatched telegrams of congratulation to his townsmen in Arkansas. The Nominating Committee had completed its work, was refreshed at Dr. Keller's expense, and the report presented to the Association was accepted with a single exception. That exception was Hot Springs, and Detroit won the day."

The Mississippi Valley Medical Association will hold its seventeenth annual session at St. Louis, Wednesday Thursday, and Friday, October 14, 15, and 16, 1891. Reduced rates and an excellent programme will bring out a large attendance. The medical profession is respectfully invited. The officers are as follows: *President*, C. H. Hughes, M.D., St. Louis, Mo.; *Secretary*, E. S. McKee, M.D., Cincinnati, O.; *Chairman Committee of Arrangements*, I. N. Love, M.D., St. Louis, Mo.

Koch Believes in his Lymph.—In a debate in the Upper House of the Prussian Diet, on June 18th, the Minister of Public Works, Ecclesiastical and Medical Affairs, replying to questions concerning the efficacy of Professor Koch's tuberculin, maintained that it had scientific value, and that its therapeutic value would be greatly enhanced as soon as Professor Koch had obtained a pure cultivation of the principal substance. This result, the Professor had informed him, would be achieved in a few weeks, and the composition of the "lymph" would then be submitted to the examination of the scientific world.

Organization of the School of Medicine of the University of Texas.—At a meeting of the regents of this University, held in June, at Austin, steps were taken to put the medical branch into operation next October. It was determined to arrange for eight chairs, with salaries affixed ranging from $3,000 to $2,000 each. Dr. H. A. West, of Galveston, was elected to fill the chair of Practice of Medicine, and Dr. J. F. Y. Paine, of Galveston, the chair of Obstetrics and Gynecology. The board determined also to have a three years' graded course, a session of seven months, and require an entrance examination. The medical branch of the University is located at Galveston. The State has about completed a building for the School on the block adjoining the Sealy Hospital, the gift to the State of Mrs. John Sealy. An election to fill the vacant chairs will take place in Galveston the latter part of August next.

Miss Garrett's Contribution to Johns Hopkins.—The conditional contribution of Miss Mary Garrett to the Johns Hopkins Medical School, referred to in our last issue, was $100,000, instead of $10,000 as stated in the journal quoted. The total amount of subscriptions to date for the inauguration of the co-educational project is something over $147,000.

Nathan Bozeman, M.D., LL.D.—The University of Alabama, at its Commencement in June, 1891, conferred the degree of LL.D. upon Dr. Nathan Bozeman of this city.

Measles on a Steamship.—There were thirty-two children sick with measles on the steamship Washington, which arrived in this port from Gibraltar on June 23d, out of a total of 971 Italian steerage passengers.

Dr. Stevenson, who was the surgeon in charge of the Andersonville prison during the Civil War, has just died in Halifax, in which city he has made his home since the close of the war.

Dr. Andrew B. Hoffman, an old physician in Hunterdon County, died at Annandale, N. J., on June 30th, aged eighty three. He had practised medicine for sixty years.

Dr. Lorenzo S. Fox, of Lowell, Mass., died on June 23d, aged fifty-one. He had been connected with the staff of the Lowell Hospital since its foundation in 1881. He was a prominent member of the Middlesex Normal Medical Society and President of it in 1876.

A New Reception Hospital.—The Board of Health has recommended the establishment of a new reception hospital at the foot of East 138th Street, the accommodations of the Millard Parker Hospital and the reception hospital at the foot of East Sixteenth Street being insufficient.

Congress of American Physicians and Surgeons.—The second triennial session of this Congress will be held in Washington from September 22 to 25, 1891. A number of distinguished physicians and surgeons from Europe and Spanish America have accepted the invitation to attend. The sessions of the Congress will be held in the main hall of the Grand Army Building, 1412 Pennsylvania Avenue, from three to six P.M. daily. On Wednesday evening, September 23d, the President's address will be delivered in the lecture-hall of the National Museum at eight o'clock, and will be followed by a reception. The Army Medical Museum will be open the same evening. On Thursday evening the members of the American Surgical Association and of the Association of American Physicians will conjointly entertain their foreign guests at dinner at the Arlington Hotel. The American Gynecological Society and the American Pediatric Society will also give dinners on the same evening. On account of the large number of societies that will be in session at the same time, it will be advisable for those intending to be present to make an early arrangement for hotel accommodations. Arrangements are in progress to secure a reduction in railway fares, all inquiries in relation to which should be addressed to Dr. S. S. Adams, 1632 K Street. The Committee of Arrangements will take pleasure in answering any inquiry relating to the local arrangements of the Congress. The chairman of this committee is Dr. Samuel C. Busey, No. 1545 I Street, N. W., Washington, D. C.

Society Reports.

MEDICAL SOCIETY OF THE STATE OF NEW JERSEY.

One Hundred and Twenty fifth Annual Meeting, held at the West End Hotel, Long Branch, June 23 and 24, 1891.

DR. JAMES S. GREEN, OF ELIZABETH, PRESIDENT, IN THE CHAIR.

Committees on Credentials and Arrangements.—DR. WILLIAM PIERSON, of Orange, read the report of the Committee on Credentials, which was accepted. Dr. H. Mitchell read the report of the Committee on Arrangements.

Medical History of the State for the Past Year.—This history was based on reports sent the Standing Committee from members of the profession in the several counties. La grippe was reported as having prevailed with various degrees of intensity in different counties. Common complications were affections of the respiratory tract, pneumonia in particular causing many deaths. Prostration was marked. Intermittent fever, remittent fever, and typhoid fever, also cholera infantum and diphtheria, had been far less prevalent in the State during the year than usual; while pneumonia and catarrhal affections in general, rheumatism, and rubeola had increased. Zymotic diseases generally had been of mild type. The reports of the Corresponding Secretary, Dr. William Elmer, jr., and of the Committee on Honorary Membership, Dr. H. R. Baldwin, Chairman, were read and accepted.

Permanent Delegates.—The report of the Committee on Permanent Membership, read by the Chairman, Dr. H. Mitchell, recommended the creation of permanent delegates, to be elected by the several district societies, the object being to increase the attendance and interest in the State Society. The report, with its recommendations, was adopted.

A View of Modern Surgery from the Stand-point of a General Practitioner.— DR. JAMES S. GREEN chose this subject for his presidential address. The era of modern surgery, he said, commenced with the discovery and practical use of anæsthetics. After mentioning the introduction of ether and chloroform in general anæsthesia, he said that cocaine had not been fully appreciated by the profession at large.

Care of Wounds.—The inference to be drawn from the various and conflicting methods formerly advised for the dressing of wounds was that they were all empirical, the result of ignorance of the fundamental principle which governed the surgeon in this more enlightened day. Formerly surgeons sought to produce suppuration and prevent primary union; modern surgeons aimed to prevent suppuration and to secure union by primary intention. He said that Tait's unfair and irrational criticisms upon antiseptic surgery had been entirely destroyed by Dr. J. William White.

An important advance in surgery followed the introduction of methods of preventing hemorrhage during operations.

Without attempting to cover the entire field in which modern surgery had made marked advance, attention was called to the success which now attended operations in abdominal affections, particularly appendicitis, which until lately had been left largely to the care of the general practitioner. Early laparotomy in recurring appendicitis was not only justifiable but was absolutely demanded.

Supra-pubic cystotomy, the treatment of phlegmon, and tenotomy also received short consideration. Burns should be treated more in accord with the teachings of modern surgery than was customary. In the hospital with which he was connected they cleansed the wound with a solution of bichloride of mercury, shaved and cleansed the adjacent surface, scraped away the dead tissue with the Volkmann spoon, and sought to avoid sepsis. The success of cerebral surgery was becoming more and more positive.

Before closing his address the President cautioned the young practitioner against choosing a specialty before a few years' general practice, in order that he might learn to which specialty he was best adapted. The moral obligations of the surgeon demanded that he look solely to his patient's interests. He feared, however, that some allowed themselves at times to give too much attention to completing a list of a hundred cases, successful or otherwise.

Intubation of the Larynx, with a Report of Eighteen Cases.—DR. WALTER B. JOHNSON, of Paterson, read the paper. He thought the operation had a greater future than tracheotomy could possibly have, although it was not intended to supersede this in certain directions. Some of the advantages of intubation over tracheotomy were enumerated as follows: 1, No anæsthetic was required; 2, the operation was easy; 3, there was little or no shock; 4, the general practitioner could do the operation without trained assistance; 5, the patient and parents more readily consented to an operation which was not accompanied by cutting or bleeding; 6, the percentage of recoveries was greater, especially before the third year; 7, no wound from which absorption might take place; 8, applicable in mild croup where tracheotomy would be too severe a remedy; 9, patient and parents were greatly pleased by the immediate relief of the dyspnœa; 10, the tube required comparatively little attention; 11, ability to speak while wearing the tube; 12, the contact of the tube caused some disintegration of the false membrane and hastened its disappearance—this pressure had also a decided tendency to diminish œdema; 13, the tube allowed mucus and detritus to be expectorated; 14, preservation of the explosive quality of the cough, rendering the tube less likely to fill with membrane; 15, the inspired air was more moist and warmer; 16, deep ulceration was not likely to occur.

The paper treated of the construction of the tubes, and the various phases of the subject of intubation, in an extended manner. The eighteen cases in which he performed intubation occurred during the seven months commencing with July, 1890, the severer part of the epidemic at Paterson. This accounted for the fact that only three of the eighteen recovered. In all there was very gratifying relief from dyspnœa.

Reduction of the Assessment.—DR. KIPP'S report of the condition of the treasury showed such plethora that it was resolved to reduce the assessment for the present year to one dollar.

Tuberculosis; the Potential Factors in its Spread.—DR. EDGAR HOLDEN, of Newark, opened the discussion upon the subject presented at the last annual meeting, "Tuberculosis; the Potential Factors in its Spread, whether Hereditary Capacity, Inherited Bacillus, or Transmission from Inferior Animals?"

The etiological relation of the bacillus tuberculosis of Koch to the disease under discussion had been generally accepted except by a few authors. But further important questions related to the manner of introduction of the bacillus into the system, and to the vulnerability of the patient. There were two types of vulnerability, the one the result of inheritance, the other acquired. With the former, careful living and healthful surroundings would do much to prevent the implantation and development of tuberculosis. In the latter, where there was no inherited vulnerability or tendency to the disease, the attack upon the citadel of life was made because of lowered vitality and exposure to overwhelming numbers of the foe.

Modes of Entrance of the Bacillus.—Taking up the latter subject, the mode of entrance of the bacillus tuberculosis into the system, it had been shown to be at least possible by the following methods: By inhalation, by in-

oculation, by ingestion, and by inheritance. The most important of these was the first-named, inhalation of the bacillus with dried particles floating in the air, and the author cited some very interesting, and what he regarded as conclusive, evidence of propagation of the disease by this means. It was true, however, that healthy persons might be exposed in consumptive wards and not contract the disease unless something arose to reduce their vitality. Regarding the second method, he could only refer to the possibility of tuberculosis developing from inoculation with the bacillus, as through wounds made at autopsies or present on butchers' hands. It had been said that tuberculosis and small-pox never coexisted, but Dr. Holden felt sure that he had seen both diseases present in the same patient. There was no proof, however, that tuberculosis had developed from inoculation with vaccine matter.

Propagation by Ingestion.—The evidence regarding the propagation of tuberculosis by the ingestion of meat and milk was as contradictory as it was voluminous. Shirley and Gibbs claimed that the tubercle bacillus in animals was not the same as that in man. There was satisfactory evidence of the danger of eating meat of tuberculous animals, however limited might be the disease. The author thought it was not necessary that the udder itself should be diseased to make the milk of a tuberculous cow dangerous. State Boards of Health were waking up to the need of securing legislative action regarding tuberculous meat and milk. Four to twelve out of every hundred cows were tuberculous.

Influence of Heredity.—What might be called practical inheritance and actual or direct inheritance might be vitally different, but the testimony in favor of the former at least could not be easily brushed aside. Whether there was or was not direct transmission of the bacillus, he thought we could not but admit the inheritance of something, say a vulnerability, similar perhaps to the inheritance of a susceptibility to gout and some other affections. There was, too, some evidence noted by German observers in proof of the tubercle bacillus occurring in some instances in the fœtus.

But that a vulnerability was hereditary in consumptive families, the author did not doubt. He had published some facts going to show this in Wood's "Handbook of the Medical Sciences," comparing the longevity of persons applying for life insurance among whose near relatives there was no history of phthisis with that of persons who gave such a history. Of the former it had not been difficult to get a hundred above seventy five years of age for comparison, while among the latter he was compelled to choose from among persons below sixty. Yet the number of children to the family in the two classes averaged about the same—over six.

Dr. J. W. Stickler, of Orange, analyzed a series of cases of tuberculosis, over two hundred in number, reported by the late Professor Austin Flint, and some others, going to show that there was a hereditary tendency or vulnerability to the disease which had not escaped general observation although no adequate explanation for it had been offered. Regarding the second question, the influence of the bacillus, it was at one time claimed by the adherents of the parasitic origin of the disease that it was impossible for the mother to transmit it directly to the child, but more recently there had been a growing belief that this was possible. He quoted observations bearing on this point. If there was danger of direct transmission of the disease to the fœtus, he thought it would be limited to cases of tuberculosis of the testes, of the ovaries, of the placenta, or cases of general infection. As to the danger of propagation of the disease from animals, he thought it was greatest from milk. But, in agreement with the author of the paper, he thought the most potential of all factors was association with those affected with tuberculosis, and next came hereditary vulnerability.

The discussion was continued by Drs. Benjamin and Baldwin.

New Jersey Cows.—Dr. Henry L. Coit, of Newark, read the report of the committee "to investigate the subject of the influence of diet and care of cows upon the constitution of their milk, and the action of this milk upon the human subject when it proves injurious. Further, to determine what current practices in their feeding and care are prejudicial to this product."

Dr. Coit read a paper bearing on this subject at the last annual meeting, and was authorized to form a committee to investigate it, and report to the Society. He had not yet finished the work, which he had found a great one. The committee was to be composed of two physicians in each county. Progress was reported, and by his request the committee was continued.

Medical Library at Trenton.—The report of the Committee on Medical Library to be located at Trenton, was read by Dr. Elmer. The library is to be located at that place.

The Treatment of Appendicitis.—Dr. John G. Ryerson, Third Vice-president, read a paper on this subject which bore the title, "Some Recent Views on Peritonitis." Limiting his remarks to appendicitis, he quoted Ferguson, who had shown in 200 autopsies that in 123 the mesentery of the appendix was so placed that, had perforation taken place, it could have opened directly into the peritoneal cavity. Until a few years ago it was thought best not to cut down over the abscess until the fifth day. Under the teaching of McBurney, Bull, and others, it had come to be regarded among surgeons as best to operate as early as the second or third day; that in doubtful cases exploratory laparotomy should be performed and the appendix removed; that a high degree of surgical skill was required; that the surgeon should be called in early by the attending physician, and he should afterward, if possible, make frequent visits in order to become familiar with the case by personal observation. Taking the figures of Fitz, Bull, Noyes, and others, on which the so-called advanced surgical views of to-day were based, the author stated that fifty per cent., or forty per cent. at least, of the mortality was due to a septic form of peritonitis, and in this form recovery rarely took place. But formerly the mortality in all cases, from all forms of treatment, was twenty-five per cent., and before the recent so-called advanced surgery in this department had come in, the mortality had been reduced to fifteen per cent. Now, if forty per cent. of these fifteen deaths out of one hundred cases were of the septic form, which under any mode of treatment would prove fatal, it left only five per cent. of all cases on which the advanced surgery was to establish its claims. At best this could not be in the aggregate very great, and was likely to be more than offset by the dangers of surgical interference in some cases which under medical treatment would have got well.

The author advocated the opium treatment, introduced by Alonzo Clark, in opposition to the more recent saline and surgical modes of treatment. Opium was indicated for paralyzing peristaltic action, thus permitting the seat of inflammation to become encapsulated, and for allaying pain.

Is Appendicitis Epidemic?—Certain facts pointed toward the epidemic character of appendicitis: 1, At times its widespread occurrence; 2, its history; 3, its more frequent occurrence in young persons; 4, the local lesion was in a mucous membrane, as it it was in other epidemic diseases. It was not impossible that a germ would in time be discovered as the cause.

New Jersey Surgeons and Abdominal Surgery.—Dr. Edward J. Ill read a paper, the full title of which was "An Attempt to Show what New Jersey Surgeons have Done in Abdominal Surgery." As far as he had been able to elicit information by correspondence, only a few operations, mostly for ovariotomy, had been performed between 1865 and 1870, and not many up to 1875. From the latter date the number of cases had progressively increased to the present. Most of the cases had

occurred since 1887. The paper was necessarily incomplete, as it related to the work of other surgeons, but contained a condensed history of the more interesting of over ninety cases of abdominal surgery occurring in the author's practice.

Delegates present from other States were: Dr. Crothers, of Connecticut; Dr. Swing, of Pennsylvania; and Drs. Furbeck and Willy Meyer, of New York.

Election of Officers.—*President*, Dr. E. J. Marsh, of Paterson; *First Vice-President*, Dr. George T. Welch, of Passaic; *Second Vice-President*, Dr. John G. Ryerson, of Boonton; *Third Vice-President*, Dr. Sproull; *Corresponding Secretary*, Dr. William Elmer, jr.; *Recording Secretary*, Dr. William Pierson, of Orange; *Treasurer*, Dr. Archibald Mercer. Place of next meeting, Atlantic City.

Therapeutic Hints.

Persistent Dandruff.—Dr. Stephen says the following is very useful in persistent dandruff:

℞. Resorcini,
Ol. olivarum,
Ætheris sulph.....āā ʒiij.
Spt. vini. rect..... ℥ vjss.

To be well shaken and applied to the scalp by a bristle brush about twice as large as the ordinary mucilage brush, by insinuating it with the locks of hair. The head to be well washed with soap and warm water twice a week.—*Weekly Medical Review.*

Alcohol in Gangrene.—Dr. Allingham reports, in the *Canada Lancet*, a case of gangrene of the finger which was steadily advancing into the hand in spite of active treatment. He finally succeeded in checking further progress by immersing the hand in a vessel of alcohol kept warm by means of a coil of rubber tubing in the bottom of the pitcher through which hot water was made to flow. After about sixty hours the alcohol bath was replaced by one of boracic acid solution kept warm by means of the coil of rubber tubing. This acted as a poultice, and in a short time the gangrenous portion separated, leaving enough living tissue next the bone to throw out granulations.

The Hypnotic Action of Hot Compresses.—In certain cases of insomnia Dr. Alldorfer has obtained excellent results by means of bandages soaked in hot water, applied around the abdomen and lumbar region and covered with rubber cloth in order to prevent evaporation, a flannel bandage being applied over all to retain the heat.

Brown-Séquard's Emulsion.—Dr. P. Victoroff read a paper at the Fourth Congress of Russian Physicians in Moscow recounting his experiments with Brown-Séquard's testicular fluid. He had experimented with it in a large number of different affections, among which were locomotor ataxia, chronic myelitis, neurasthenia, diabetes mellitus, enlarged prostate, cystitis, senile marasmus, and paralysis of the bladder. From the results of these experiments he came to the conclusion that the fluid is without doubt endowed with a stimulating effect upon the central nervous system, acting as powerfully on women as upon men. The best results were obtained in senile marasmus and in nervous affections occurring in the aged.—*Vratch*, No. 3, 1891.

The Treatment of Sprains.—Dr. N. W. Cady, of Logansport, Ind., writes: "A recent number of the MEDICAL RECORD promises fame to the man who gives an unfailing remedy for sprains. Here it is, in two words: A half-hour's douching with water at a temperature of 120° F., and the fixation of the joint by a splint on the flexor side of the joint, or upon the extensor side, if that be more convenient. For example, in a case of ankle sprain, after a half-hour's steady douching with hot water at 120° F., I prepare an anterior splint of ten to sixteen layers of mosquito-bar which, is thoroughly filled by immersion in wet plaster of Paris. This is trimmed by spreading it on a board and cutting to shape with a knife. The length may be thirteen to sixteen inches, breadth four to six inches. Where the splint passes over the instep the edges on each side are folded over to make the splint narrower and thicker. A layer of cotton is then spread over the face of the splint and the splint is applied from the base of the toes to a point about half-way up the leg and carefully secured and moulded by a narrow roller bandage. While the plaster hardens hold the foot in whatever position is easiest to the patient. There is rarely any further complaint of pain if the splint fits neatly. This, with perfect rest, constitutes the whole treatment, which should continue at least a week or until all extravasation is absorbed. Fourteen years' experience and observation of results obtained by other methods satisfies me that it is the best and most rational treatment."

Poultices in Typhoid Fever.—The late Dr. William S. Thompson, of Warren, Md., enjoyed a great reputation among both his medical brethren and the laity on account of the almost uniformly successful issue of the typhoid fever cases submitted to his care. He gave few drugs, but relied chiefly upon the application of thin poultices covering the entire abdomen, which were continued throughout the course of the disease.

Earache.—The following is recommended for the relief of earache: Chloroform, 1 part; olive oil, 8 parts; put from twenty to thirty drops of this solution in the auditory canal, closing the ear with cotton. When the earache is due to a furuncle in the external auditory meatus, an application of a solution of 1 part of menthol in 20 parts of oil of sweet almonds often brings almost instantaneous relief.

A Substitute for Felt Splints.—When it is desired to use a felt splint, but the material cannot be readily obtained, an excellent substitute may be manufactured out of old cloth, in the following manner (*North American Practitioner*): Dissolve one pound of the best gum shellac in one and one-half pint of ninety-five per cent. alcohol, adding one drachm of borax. This makes a solution of syrupy consistence which is applied with a brush to one side of a woollen cloth, the cloth being then thoroughly dried before the fire. When dry, a second coat is added. This makes a thin piece, which can be strengthened by placing another piece over it, with the prepared surfaces together, union between the two being obtained by pressing with a hot iron. Pieces of old cloth are better than new cloth, as they absorb more. The splints must be thoroughly dried, or they will not harden. When ready to apply, hold before the fire or in hot water, till soft, then mould to the part, and remove for a few moments until hardened; this can be expedited by immersing in cold water.

A Rare Antipyrine Rash.—Veiel describes a case of a patient in whom antipyrine always produced a peculiar skin rash. Soon after the dose was taken there was severe itching of the palms of the hands, the lips, the soles of the feet, and of the glans penis. The lips became œdematous, and large bullæ formed on them; two bullæ also formed on the hard palate and between the toes. On the soles and palms there were deep-red urticaria-like spots with sharp contours, which itched severely but did not form bullæ. The itch lasted three or four days; the bullæ on the lips dried in four or five days; those in the toes in about eight days; the spots on the palms, soles, and glans penis desquamated in large scales after about ten days, and had vanished in about three weeks.—*British and Colonial Druggist.*

Hot Solutions of Corrosive Sublimate.—It is asserted that the antiseptic effect of corrosive sublimate solutions is greatly increased by heating to a temperature of 100° F. and higher, a 1 to 10,000 solution at this temperature being equal in germicidal efficacy to a cold solution of 1 part to 500.

Boroglyceride for Aphthæ.—The *Medical Mirror* says that boroglyceride, locally applied, is infinitely superior to all other local applications for aphthæ or thrush, in the oral cavity of nursing infants.

Obstinate Hiccough has occasionally been arrested by pilocarpine.

Pruritus.—An ointment composed of five parts of menthol, 20 of balsam of Peru, and 200 of lanoline is very serviceable in relieving persistent itching. For pruritis ani the local application of a solution of corrosive sublimate, 1–2,000 is recommended. And in pruritus vulvæ much comfort is often afforded by a lotion composed of one ounce of hyposulphite of sodium, half an ounce of glycerine, and water enough to make twelve ounces.

Troublesome Cough.—A writer in *La Semaine Medicale* claims to have had very satisfactory results in cases of harassing cough accompanied with scanty expectoration by the daily administration of from one to three grammes (15 to 45 minims) of the tincture of naregania. This is a tincture of the bark of naregania-alata which has been used in dysentery and rheumatism.

Sciatica.—Among the many remedies proposed for the relief of this obstinate affection is phenacetin, given in doses of from six to eight grains every three or four hours.

Malaria.—Cases of chronic malarial poisoning, refractory to the action of arsenic or quinine, are reported to yield speedily to half-grain doses of picrate of ammonium. This drug may be given alone, or, preferably, in many cases, combined with either quinine or arsenic, or both.

Diuretine.—The accounts of the action of diuretine (theobromine-sodio-salicylate) have varied so much that it is not by any means certain whether this drug can be admitted on our list of reliable diuretics. All we can at present do is to form our own conclusions from the published results. Dr. Heissler has tried its effect on one healthy subject, four patients with heart disease, two with nephritis, and one with cirrhosis of the liver. His observations were made at three periods, viz., before, during, and after the use of the drug. The conclusions drawn from his results are as follows: 1. The drug certainly produces a rise of blood-pressure. 2. It is not only a diuretic, but has an action on the heart. 3. It gives remarkable results, especially in cases of "asystoly" without valvular incompetence. 4. When the heart muscle is diseased the diuretic effects are much less marked. 5. Diuresis is much more abundantly produced in acute than in chronic nephritis. Albumin is never increased as a consequence of the administration of diuretine. 6. No diuresis followed its use in the case of cirrhosis of the liver. 7. On the healthy man the drug has but little effect.—*Medical Recorder.*

Management of Whooping-Cough.—The following rules for the management of an ordinary case of pertussis are laid down in the *Revue Générale de Clinique et de Thérapeutique*, No. 3, 1891: *First period.*—Keep the child in the house, or, preferably, in bed, and give aconite and belladonna, adding opium if necessary. These remedies may be administered in combination, from ten to twenty minims (according to the age of the child) of a mixture containing equal parts of tincture of aconite, tincture of belladonna, and paregoric, being given in the course of the twenty-four hours. *Second period.*—Give drugs such as ipecacuanha. Treat also the dyspepsia, which is usually present. *Third period.*—Treat any tracheo-bronchial adenopathy by cod-liver oil, iodine, tonics, etc.

Scarlet Fever.—Acetate of ammonia in large doses (one-half to two drachms per diem according to the age of the child) has been employed with apparently good effect in cases of scarlet fever.

Headache.—Headache almost always yields to the simultaneons application of hot water to the feet and back of the neck.

Carbuncles.—Dr. A. E. Spohn, writing in the *Medical and Surgical Reporter*, states that he has had excellent results in the treatment of carbuncle by the external use of a ten per cent. solution of chloral hydrate in glycerine and water, applied constantly by means of absorbent cotton, combined with the internal administration of sulphide of calcium. He was led to use the chloral externally to relieve the pain, and was surprised to find that it also had a curative effect.

Herpes.—Leloir claims excellent results in the abortive treatment of herpes from the local use of one part of resorcin or menthol to fifty of alcohol. If there is much pain he uses gauze steeped in the following solution and covered with an impermeable dressing: Alcohol, one hundred parts; cocaine hydrochlorate, one part; extract of cannabis Indica, ten parts; mint essence, ten parts.—*Medical Standard.*

Alcohol in Erysipelas.—Dr. Stembarth has treated successfully a number of cases of erysipelas by the external application of alcohol. He paints the affected part and the healthy skin surrounding it every two hours with absolute alcohol, and claims to effect a cure in most cases within three or four days.

Cold in the Head.—For cold in the head, while in the acute congestive stage, there is no better remedy than gelseminum. One good large dose, say ten minims of the fluid extract, taken upon going to bed, will effectually dispose of this troublesome and uncomfortable affection. One dose is usually sufficient.—*Medical Compend.*

Quick Action of Drugs.—The *Medical World* says if you want a sure, speedy action from your drugs, as if you gave them hypodermically, administer them in hot water; one-half the dose will have the effect. The reason is obvious. If the dose be given in hot water it is quickly absorbed, and the force of the drug thrown upon the system at once. Few people realize how long the dose will remain in the stomach if that viscus be chilled. Beaumont found that a glass of ice water stopped digestion for one hour. This method of ministration is particularly suitable for the vegetable preparations, opiates, etc.

Tooth Wash.—

℞. Saccharin ..... gr. xxx.
Sodii bicarbonatis ..... gr. xv.
Ol. menth. pip. ..... ♏. iij.
Alcohol ..... ʒ vj.

M. Sig.: Put one teaspoonful in a small glass of water, and rinse the mouth thoroughly.

Boro-Citrate of Magnesia in Urinary Calculi.—Dr. N. Perez (*Albany Medical Annals*) reports the case of a boy, four years old, having a large calculus in his bladder. Before performing an operation he tried the application of the boro-citrate of magnesia, of which he gave fifteen grains dissolved in an ounce of syrup, one to three tablespoonfuls every day. After three days of this treatment a good deal of white sediment appeared among the mucus in the urine, which continued about one month, the other phenomena disappearing.

Chafing of Trusses.—De Garmo recommends highly the following, not only for use with trusses, but wherever a toilet powder is used for children:

℞. Amyli ..... ʒ iv.
Cretæ gallicæ ..... ʒ ij.
Alum. ust. }
Acidi boracic. } ..... āā ʒ ij.
Acidi carbolici }
Ol. limonis } ..... āā ʒ ss.

M. Sig.: Powder very fine.

Where an abrasion has once occurred and is slow to heal, on account of the constant wetting by the urine and the irritation of the truss. the author has found nothing better than the balsam of Peru.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

AN UNUSUAL CASE OF TYPHOID FEVER—A PROTRACTED CASE OF LEUCOCYTHÆMIA—THE CHANGES IN HEALTHY ARTERIES AND IN TENDON LIGATURES AFTER LIGATION—THE GENERAL MEDICAL COUNCIL—THE UNIVERSITY QUESTION IN LONDON.

LONDON, May 30, 1891.

At last week's meeting of the Clinical Society Dr. Sidney Phillips read notes of a case of typhoid fever in an adult male in whom the femoral artery became occluded during convalescence, and acute maniacal attacks occurred. The attack was a mild one, but the heart's action was weak and irregular from the first. Sudden pyrexial attacks occurred during convalescence, and the left common femoral artery became blocked, with absence of pulsation in it and in the popliteal and tibial arteries. Pulsation gradually recurred in the limb, which completely recovered. The fourth, fifth, and sixth attacks of fever were accompanied by outbreaks of excitement—almost of acute mania—and in one the temperature rose to 106.1° F. The patient eventually got quite well. Dr. Phillips remarked that a rise of temperature in the affected limb after occlusion of the main artery was not usual, and even if the ordinary collateral circulation was sufficient to keep the temperature of the part up to the normal, it could not be credited with raising it above the normal. It seemed probable that the shock of the embolism led to a reflex paralysis of the spinal centre—producing the retention of urine which had occurred—and that the same shock in the same way led to paralysis of the vaso-motor constricting nerves of the arteries of the lower limb, allowing an unusual hyperæmia. Dr. Gaskell had shown that these nerves originated in the anterior cornua of the spinal cord and passed out in the anterior nerve-roots to the sciatic plexus. Anything, therefore, which would produce a paralyzing influence on the spinal centres for the bladder might also paralyze the centres of origin of the vaso-motor nerves to the arteries of the leg. The maniacal attacks were possibly embolic in origin, but were more probably only signs of functional nerve disturbance in an emotional individual.

At the same meeting of the Society Dr. Ord read notes of a case of leucocythæmia which had been under observation for nearly three years before it ended fatally. The patient was a schoolmaster, aged thirty-six, and the disease certainly dated from as far back as 1886. The accessory symptoms were few. The patient suffered severely from headache, and had occasional hemorrhages from the nose and gums, also retinal hemorrhages. There was a variable amount of albumin in the urine but no marked variations in temperature. The patient was treated by rest, feeding, and the administration of arsenic and hypophosphite of soda. The arsenic appeared to be especially beneficial. It had been given in the form of liquor arsenicalis in doses of from five to ten minims three times a day.

At the last meeting of the Medical and Chirurgical Society, Dr Sheridan Delépine and Mr. C. T. Dent read a paper in which they gave an account of the changes observed in healthy arteries and in tendon ligatures during the first four weeks after ligation. As the result of their observations they concluded: 1. That tight ligation of healthy arteries resulted in sound and permanent obstruction within two weeks. 2. That tight ligation with flat tendon ligature did not injure the fibrous coat of the artery, even though the ligature were applied with sufficient force to cause complete rupture of both internal coats. 3. That the obstruction of the vessel by young fibrous tissue, replacing the clot, was complete long before the flat tendon ligature showed any signs of being absorbed or of giving way. The authors advocated the use of tendon because this material was very uniform in structure and because the shape presented certain advantages. They thought tight ligation was advisable as being the method least likely to lead to injurious consequences to the ligatured vessel and most likely to bring about the effects which it was commonly desired to obtain by the operation.

Some discussion followed the reading of the paper. The President (Mr. Timothy Holmes) said he had devoted a good deal of thought to the subject and had come to the conclusion that it was safer and easier for the surgeon, as well as more prudent for the patient, to have the vessel tied with such an amount of force as to divide the internal coat. This incurred no extra danger, and one was sure of producing a permanent obliteration of the lumen of the vessel. In the history of many of the cases of arterial ligature which had been done badly, the cause was found to be due to a too early establishment of free circulation through the weakened vessel; the danger was a practical one, and was greater than the theoretical benefit from the avoidance of rupture of the internal coat.

Mr. Macnamara agreed that the tight ligature gave the greatest chance of recovery to the patient. Mr. Ballance said he hoped the profession would suspend their judgment on this question till the whole of the recent work of Dr. Edmunds and himself was before them.

Mr. Spencer Watson pointed out that the experiments which had been narrated had been performed on healthy arteries, but surgeons were often called on to deal with atheromatous vessels when perhaps a loose ligature would be safer.

Dr. Delépine and Mr. Dent then replied and defended the position they had taken.

The spring session of the Medical Council commenced a few days ago. So far no very important business has been transacted. Sir Richard Quain has been elected as President, and Mr. Bryant as Treasurer, of the Council. Dr. Haughton made an ineffectual attempt to again discuss the question of the extension of the medical curriculum and a good deal of time was spent in the consideration of some resolutions with regard to the instruction of students in practical midwifery, the result being to reaffirm—with a verbal alteration—a previous resolution of the Council.

The university question in London has entered upon a new phase. Within the last few days University and King's Colleges have received formal notice that they are to appear by counsel before the Privy Council at an early date in support of their petition for the grant of a charter to a body of persons to be a University in and for the London district.

SPREADING DISEASE BY THE CLINICAL THERMOMETER.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I notice an article in the MEDICAL RECORD, May 16th, headed "Dentistry and Syphilis," which reminds me of the thoughtless and filthy manner I have seen the clinical thermometer used by physicians, and that by physicians of good standing and undoubted ability. I cannot call to your attention any particular case that would demonstrate, without doubt, my views; but my conviction is sufficient to prompt me to make the assertion that disease is often conveyed by the clinical thermometer.

I have seen the thermometer used when the amount of mucus accumulated on it was so great as to make it almost difficult to see the register. The majority of practitioners wipe the instrument off with a handkerchief, towel, or even the bedclothing, and carefully place it away in a case prepared with a small amount of absorbent cotton in the bottom to prevent breaking, and, unintentionally, to preserve the germs from time to time, to be conveyed to

the next unfortunate, who may be the first patient called upon.

I make it a rule to clean my thermometer every time it is used, whether I suspect any infectious disease or not, at the patient's residence. I use soap and water, and if no disinfectant is at hand, I use, on my arrival at my office, either boracic, carbolic, or corrosive sublimate solution, in order that I may use my thermometer with a clear conscience when it is again needed.

L. M. Powers, M.D.

Los Angeles, Cal.

New Instruments.

A UNIVERSAL DOUBLE-ACTING SNARE, WITH PRACTICAL OBSERVATIONS ON ITS APPLICATION.

By CHARLES A. BUCKLIN, A.M., M.D.,

new york.

It is difficult to give proper credit to whom it is due in presenting a snare which is a combination of the good principles of all other similar instruments. Without the tempered steel wire all snares are indifferent surgical appliances.

I am unable to discover with certainty who is entitled to priority in using tempered steel wire in this connection. The best information I can gain about this subject is the following:

There were four snares made, over thirty years ago, using the same tempered wire which we now have. The instruments were made at Celle, in Hanover, Germany. The first one was made for Medicinalrath Dr. Scheller; Dr. Schmidt, of the same place, owned the second, and Dr. Marquandt owned the third. I am unable to determine who owned the fourth. The snare was considered a great success, as being the best means of removing nasal polypi. There were many more made at that time. The instrument consisted of two cannulas, fastened at one end to a cross-piece, which was firmly grasped in the hand. The steel wire was attached to a ring, which hung free some inches in front of the cross-piece. The operator passed his second finger through the ring and drew the wire loop firmly home by a strong grasp of the hand. At this time, for growths of a more dense character, this wire was not considered strong enough; a much larger size was used, which could only be managed well when the temper was drawn. In this more powerful instrument the loop has been drawn by a screw motion, and also by a ratchet motion.

Much credit is due Dr. Jarvis for suggesting a wider field of application of the tempered wire, drawing both wires through the same cannula, drawing the tempered wire with the screw motion, and for the general introduction of the advantages of the above principles.

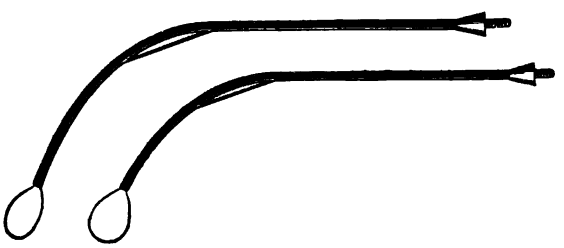
The modifications of drawing a steel-wire loop have become as numerous as the patterns of vaginal specula or nasal saws.

Sajous suggested a modification of the Jarvis snare having a solid stylet, to the end of which the wire was attached. This instrument had the advantage of using much less wire, and the loop, after being drawn, could promptly be returned to position for repeating the operation. The advantages on paper appear attractive. In practice the difficulties encountered make the instrument thoroughly impracticable. In the Sajous snare the friction of the ends of the wire, which are doubled over the stylet, offer a decided resistance to the rapid engaging of a growth by sliding the loop without the use of the screw. This will be found in practice a fatal objection.

The advantages of being able to engage a growth with one hand, while the other is left free to adjust the head, the light, or a speculum, has led to the construction of a large number of snares, in which, for the purpose of carrying the operator's hand out of the line of vision, the handle stands at an obtuse angle to the line of traction. The power in this class of instruments consists of a nut running on a thread, which encircles the handle. This necessitates an angular traction on the wire, or a decided off-set from the carriage on the handle. In either case the binding is severe, the instrument is not constructed on true mechanical principles, it is weak, and only answering for the very lightest class of work.

Dr. Wright started out with the fixed idea of creating a snare which did not draw by a screw motion. The result was a very satisfactory instrument. He appropriated Sajous's stylet, and overcame all the disadvantages of other instruments in the following manner: He applied a firm handle to the tube carrying the stylet. This carried the hand out of the line of vision. He drew the loop by a ratchet motion, which is worked by the thumb of the hand holding the instrument. This instrument is very powerful. The line of traction is straight, and I think it is more easily adjusted about a growth than any other form of snare. The objections urged against the instrument are that it is rapid cutting and dangerous in very vascular growths, and that it is too heavy to use where a very slow process of strangulation is required.

After carefully experimenting with all forms of snares, I have attempted to make use of the good features in all, and combine them in one instrument.



The instrument which I present to you may be made to meet any possible emergency in a manner which meets the approval of the most timid and conservative operator.

The stylet of Sajous is used, and as no attempt is made to adjust the wire excepting with the rapid-acting ratchet motion, the difficulties of resistance are entirely overcome. The screw action and the ratchet action are connected to the same stylet, enabling one at pleasure to use a very slow-cutting snare, or a most satisfactory rapid-cutting one. The handle and ratchet motion are detachable at pleasure, leaving one an instrument suitable for the slow strangulation of a very vascular growth. In adapting this instrument for the removal of adenoids through the pharynx, certain foreign bodies lodged in and about the larynx, as well as certain intra-laryngeal growths, I thoroughly experimented with flexible stylets, and rejected them as impracticable and dangerous. They are certain to bind and break sooner or later in making the transit of the curve.

With a properly constructed instrument a few minutes' instruction will enable anyone to arm these curved tips with wire quite as quickly as any other curved tip can be armed.

The question now arises, Where should the slow motion be used, and where should the rapid motion be used?

There are three factors to be considered in answering this question. The most important one is the personal ideas of the operator regarding hemorrhage. Some men are very timid, others fear nothing short of the carotids, a nævus, or a suspiciously vascular-appearing growth. The second factor is the real nature of the growth. The third factor is the age of the patient. Adults bleed much worse than children as a class.

The last two hundred cases of which I have any memoranda upon whom I have used a snare, in not more than twenty-five cases should I have made use of the screw motion attached to this instrument. Others may have used it in half of the cases. If out of two hundred cases

it was found desirable to use a rapid acting snare one hundred and seventy-five times, the advantages of having a rapidly acting snare can be readily appreciated. The annoying disadvantages of using a rapidly acting snare on a highly vascular growth, which are of exceptional occurrence, should not deprive us of the use of the rapidly acting snare in cases where no excessive degree of vascularity exists.

I have experimented with this instrument some thirty times on the removal of the tonsils. It has been my custom in timid patients, where both tonsils are enlarged and neither are bound down by adhesion, to take an instrument of this pattern in each hand, and carefully adjusting a loop about each tonsil, the patient is induced to gag by a slight agitation of the points of the instruments; while the tonsils are thus protruded into the pharynx both loops are rapidly tightened and both tonsils are thus severed simultaneously. This form of double tonsillotomy has its advantages in dealing with timid patients as well as with timid parents or friends.

Where adhesions exist as a result of previous inflammation, frequently the results of cauterization, it is impracticable to remove both tonsils at once. In such cases the tonsil may require lifting with a sharp hook before the snare is applied. By means of the snare the tonsil is usually removed so perfectly that the stump is completely hidden behind the pillars of the fauces, the hemorrhage is slight, and the operation is free from danger.

The wire loop can be much more accurately adjusted in the average case for the removal of the tonsil than the tonsillitome. To insure the holding of the wire the stylet should fit the tube quite accurately, the grooves in its side being sufficient to receive the bent wire. No attempt should be made to remove a large tonsil with wire finer than No. 5, as it is liable to slip in the stylet.

I have never used a tonsillitome since I became familiar with this method, and I doubt if other practical men will if they become perfectly familiar with the use of the instrument. In all persons who will submit I inject the tonsil with five minims of a two per cent. solution of cocaine, in addition to applying the solution repeatedly to the surface.

In consideration of the ease with which the instrument is adjusted, the perfection with which it does its work, the reduced hemorrhage, and the absence of danger, this instrument is entitled, I believe, to the first place as a means of removing diseased tonsils.

The wound is frequently covered with a slightly white coating due to the sloughing of minute particles which have been pinched in the transit of the snare. Fever does not follow the operation, and to all appearances the cases recover quite as quickly as those operated upon by a cutting instrument. The momentary pain would appear to be greater with the snare. Patients who have been operated upon by both methods are in doubt regarding this question, and differ as to the amount of pain experienced.

In the extirpation of tonsils the rapid action of the instrument alone is used. Adenoids may be satisfactorily removed through the pharynx at a single sitting by this instrument, providing no part of the adenoid is anterior to a loop of wire which rests squarely against the posterior end of the nasal septum. In such cases the instrument must be used through the nose, with "a straight tip."

I am aware that exactly similar manipulations, of a very successful nature, have been made with the Jarvis snare. I believe, however, that experience will demonstrate that this instrument, with its firm handle and the further advantage of being quickly and powerfully manipulated with one hand, can be more advantageously placed and retained in the desired position for the successful removal of the growth, with less embarrassment from the faucial movements than any other snare with which the attempt has been made.

I have never seen an adenoid which, with this instrument, assisted slightly in very exceptional cases by an ordinary curette, cannot be removed with satisfactory results at a single sitting.

If the hearing of an individual has been reduced to two inches by catarrhal deafness, resulting from an adenoid, and the hearing is not improved by inflation, but is permanently cured by the removal of the adenoid, I think the growth has been removed with sufficient thoroughness. To produce these results the removal of these growths by the snare is sufficiently complete.

In support of the conclusion that adenoid growths which are quite cessile may be grasped with a snare, I call attention to the following case: A child, twelve years of age, had been etherized twice for the radical destruction of an adenoid by means of a curette. Three weeks later a wire loop was passed to the vault of the pharynx, and an adenoid the size of a hazel-nut was removed. This demonstrates that the radical destruction of adenoids under ether is not always a success as far as the removal of the growth is concerned.

I have a large number of similar cases, which illustrate the same facts, that I hope to publish in a future article on catarrhal deafness.

I feel fully convinced, from a careful perusal of Meyer's cases, that as a result of the many sittings required for the destruction of an adenoid with his ring-shaped knife, that he did not extirpate the growth as completely as we can now, with the snare, at one sitting. I have also many observations on record which show that the partial, or most imperfect, destruction of an adenoid has led to as satisfactory and permanent a restoration of hearing as the most perfect eradication of the growth could have done. I have one case where defective hearing was relieved, twenty years ago, by a dozen applications to a large adenoid of nitrate of silver fused on a probe. The adenoid was removed twenty years later by a snare, because of imperfect articulation which annoyed the patient in his professional calling as a lawyer. It is fair to conclude that if an adenoid is sufficiently removed to overcome difficulties of articulation, obstructive nasal breathing, and ear symptoms, that it has been adequately destroyed, and it is therefore unnecessary to resort to excessive manipulation in the naso-pharynx with cutting forceps, for there certainly is danger that excessive cicatrization in this position may lead to a hopeless catarrhal deafness. In the removal of all adenoids we will use the rapid action of the snare unless the hemorrhagic diathesis is known to exist.

In all forms of neoplasms and hypertrophies in the nostril or naso-pharynx where there is any suspicion of undue vascularity, the growth, after being firmly secured by the rapid action of the snare, should be divided very slowly by using the slow action of the instrument.

In the removal of nasal polypi the instrument has great advantage, as the action can be broken and the loop returned to position for further operation with great rapidity.

With a Graefe knife for the cartilagenous septum, a curette with a stiff copper shank, this snare, and a nasal saw having three inches of properly constructed teeth, not hampered by a probe-point, we are prepared to remove any bony deformity, benign neoplasm, or hypertrophy which is found in the nose, naso-pharynx, or pharynx. It can be done quite as quickly and quite as well as with the assistance of all the innumerable appliances at our command.

The instrument presented fully meets all the requirements met by Stoerk's laryngeal guillotine or wire écraseur, and furnishes the man not provided with an extensive assortment of laryngeal forceps with a simple means of reaching and extracting many of the foreign bodies which become lodged in and about the larynx.

To Remove Warts.—It is said that castor-oil applied for two to four or six weeks—that is, once a day—has not failed in any case.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 21, 1891, to June 27, 1891.

BAILY, JOSEPH C., Lieutenant-Colonel and Assistant Medical Purveyor. By direction of the Acting Secretary of War, is granted leave of absence for two months on surgeon's certificate of disability, with permission to leave the Department of Texas, and authority to enter the Army and Navy General Hospital, Hot Springs, Ark., for treatment therein, for a period of one month. S. O 134, par. 12, Washington, D. C., June 12, 1891.

TAYLOR, BLAIR D., Captain and Assistant Surgeon. Granted leave of absence for one month, to take effect on or about the 14th proximo. S. O. 65, par. 3, Department of the Missouri, June 15, 1891.

MCKEE, JAMES C., Lieutenant-Colonel and Surgeon. Having been found incapacitated for active service on account of disability incident to the service, is, by direction of the President, retired from active service this date, under the provisions of Section 1251, Revised Statutes. S. O. 137, par. 4, A. G. O., Washington, D. C., June 16, 1891.

BORDEN, WILLIAM C., Captain and Assistant Surgeon. By direction of the Secretary of War, will, upon the final abandonment of Fort Davis, Tex., report in person to the commanding officer at Jackson Barracks, La, for duty at that post. S. O. 139, par. 4, A. G. O., Washington, D. C., June 18, 1891.

PATZKI, JULIUS H., Major and Surgeon. By direction of the Acting Secretary of War, the leave of absence granted on surgeon's certificate of disability, in S. O. 99, May 1, 1891, from this office, is extended two months on surgeon's certificate of disability. S. O. 142, par. 15, A. G. O., Washington, D. C., June 22, 1891.

CARTER, EDWARD C., Assistant Surgeon. Relieved from duty at Fort Walla Walla, Wash., and assigned to duty at Fort Canby, Wash.

Official List of Changes in the Medical Corps of the United States Navy for the week ending June 27, 1891.

HALL, J. H., Surgeon. Detached from Naval Station, New London, and ordered to Naval Hospital, Chelsea, Mass.

ATLEE, L. W., Passed Assistant Surgeon. Detached from Nautical School-ship Saratoga, and wait orders.

STEELE, J. M., Passed Assistant Surgeon. Ordered to Nautical School-ship Saratoga.

LUNG, G. A., Assistant Surgeon. Ordered to Naval Station, New London, Conn.

PAGE, J. E., Assistant Surgeon. Detached from Naval Hospital, Mare Island, Cal., and ordered to the Independence.

PIGOTT, M. R., Assistant Surgeon. Detached from Receiving-ship Independence, and ordered to Naval Hospital, Mare Island, Cal.

FIELD, J. G., Assistant Surgeon. Detached from the Omaha, and granted three months' leave of absence.

BRATHWAITE, FREDERICK GRATTON, of Stamford, Conn. Commissioned an Assistant Surgeon, June 22, 1891.

RUTH, M. L., Surgeon. Detached from the Newark, and granted leave of absence for six months, with permission to leave the United States.

BRIGHT, GEORGE A., Surgeon. Ordered to the Newark.

PIGOTT, M. R., Assistant Surgeon. Ordered to the Receiving ship Independence.

WELLS, HOWARD, Surgeon. Detached from Naval Hospital, Chelsea, Mass., and to await orders.

STEELE, J. M., Passed Assistant Surgeon. Ordered to Naval Hospital, Chelsea, Mass.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 27, 1891.

	Cases.	Deaths.
Typhus fever	1	0
Typhoid fever	9	7
Scarlet fever	131	24
Cerebro-spinal meningitis	0	0
Measles	244	20
Diphtheria	59	18
Small-pox	0	0
Varicella	9	0
Pertussis	0	5
Erysipelas	1	0
Mumps	0	0
Rötheln	0	0

The Lay of the Lymph.—The following appropriate lines have appeared in the *British Medical Journal:*

Who'll kill the bacillus?
"I," said Herr Koch,
"With my lymph and syringe,
I'll kill the bacillus."

Alas! Doctor Koch,
With false hopes you fill us;
For firm as a rock,
Holds the field—the bacillus.

And assembled bacilli
Through a cultur'd bacillus
Say, "We're not quite so silly
As to let Herr Koch kill us."

"Must admit," owns Herr Koch,
"I can't kill the bacillus,
Only cut off the stock
Of supplies from bacillus."

Replieth Herr Virchow,
"No lack of supply;
From one organ driven
To another he'll fly."

So some vow with a twinge,
"No more shall you drill us;
With your lymph and syringe,
You can't starve the bacillus."

Arnica Eruption.—At a recent meeting of the Paris Biological Society, Dr. Dupuy related the case of a patient who was attacked by pseudo-erysipelas in consequence of an application of tincture of arnica. He regarded the fact as very curious, and remembered that essence of rue exerted a similar action.

Ringworm in Demand.—The following advertisement appeared the other day in a British paper: "Lady, having the care of two little boys with ringworm, wishes to meet with one or two others to share their educational advantages."

Disagreeable for the Doctor.—A physician of Chicago who was on the witness-stand testifying to the insanity of a man, was interrupted in his remarks by the landing of a rotten egg on his head. The egg was thrown by the subject of the doctor's testimony, who was promptly admitted to be insane, or at least "queer."

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Original Articles.

CONTAGIOUS DISEASES OF THE EYE; SOME STATISTICS, WITH REMARKS.[1]

BY A. E. DAVIS, A.M., M.D.,

HOUSE SURGEON, MANHATTAN EYE AND EAR HOSPITAL.

MR. PRESIDENT AND GENTLEMEN: I have pleasure in reporting the statistics collected from something over one-half million eye patients treated in nine different eye and ear infirmaries in the United States of America. These statistics have been collected relative to contagious diseases especially, and coming as they do, at this opportune time, when the ophthalmologists[2] of New York City are urging the erection of a hospital for the treatment of contagious diseases of the eye alone, I am sure will prove of interest, and, I trust, of some assistance.

The nine institutions from which I have collected statistics are as follows:

1. Manhattan Eye and Ear Hospital (New York), twenty-one years; eye patients treated, 76,103. Of this number

12,495	were	conjunctivitis	catarrhalis.
3,157	"	"	granulosa (trachoma).
485	"	"	" with pannus.
18	"	"	gonorrhœica.[3]
212	"	"	neonatorum.
446	"	"	purulenta or blennorrhœica and gonorrhœica.
1	was	"	crouposa.
17	were	"	diphtheritica.

2. Massachusetts Charitable Eye and Ear Infirmary (Boston), ten years; eye and ear patients treated, 84,228. Of this number

16,945	were	conjunctivitis	catarrhalis.
1,661	"	"	granulosa (trachoma).
730	"	"	" with pannus.
231	"	"	gonorrhœica.
303	"	"	neonatorum.
0	"	"	purulenta.
0	"	"	crouposa.
16	"	"	diphtheritica.

3. Eastern Dispensary (New York), four years; eye patients treated, 8,661. Of this number

2,038	were	conjunctivitis	catarrhalis.
617	"	"	granulosa (trachoma).
163	"	"	" with pannus.
4	"	"	gonorrhœica.
56	"	"	neonatorum.
0	"	"	purulenta.
0	"	"	crouposa.
0	"	"	diphtheritica.

4. Maine Eye and Ear Infirmary (Portland), five years; eye patients treated, 2,966. Of this number

197	were	conjunctivitis	catarrhalis.
28	"	"	granulosa (trachoma).
15	"	"	" with pannus.
5	"	"	gonorrhœica.
0	"	"	neonatorum.
0	"	"	purulenta.
0	"	"	crouposa.
1	was	"	diphtheritica

5. Illinois Charitable Eye and Ear Infirmary (Chicago), two years; eye patients treated, 8,906. Of this number

1,273	were	conjunctivitis	catarrhalis.
589	"	"	granulosa (trachoma).
342	"	"	" with pannus.
10	"	"	gonorrhœica.
17	"	"	neonatorum.
29	"	"	purulenta.
1	was	"	crouposa.
0	were	"	diphtheritica.

6. St. Mary's Hospital and Eye and Ear Infirmary (Detroit), one year; eye patients treated, 997. Of this number

70	were	conjunctivitis	catarrhalis.
38	"	"	granulosa (trachoma).
0	"	"	" with pannus.
0	"	"	gonorrhœica.
8	"	"	neonatorum.
6	"	"	purulenta.
0	"	"	crouposa.
0	"	"	diphtheritica.

7. Presbyterian Eye, Ear, and Throat Charity Hospital (Baltimore), twelve years; eye patients treated, 42,840. Of this number

1,796	were	conjunctivitis	catarrhalis.
377	"	"	granulosa (trachoma).
274	"	"	" with pannus.
0	"	"	gonorrhœica.
0	"	"	neonatorum.
482	"	"	purulenta.
13	"	"	crouposa.
9	"	"	diphtheritica.

8. New York Ophthalmic and Aural Institute (New York), twenty-one years; eye patients treated, 94,153. Of this number

23,656	were	conjunctivitis	catarrhalis.
5,111	"	"	granulosa (trachoma).
985	"	"	" with pannus.
126	"	"	gonorrhœica.
636	"	"	neonatorum.
0	"	"	purulenta.
20	"	"	crouposa.
135	"	"	diphtheritica.

9. New York Eye and Ear Infirmary (New York), last twenty-two years; eye patients treated, 192,923. Of this number

50,306	were	conjunctivitis	catarrhalis.
10,179	"	"	granulosa (trachoma).
1,184	"	"	" with pannus.
244	"	"	gonorrhœica.
1,142	"	"	neonatorum.
1,715	"	"	purulenta.
51	"	"	crouposa.
88	"	"	diphtheritica.

The number of eye patients treated in the nine institutions was over one-half million—to be exact, 511,807.

[1] Read before the Section in Ophthalmology of the New York Academy of Medicine, April 20, 1891.

[2] Dr. Callan, of this city, has been instrumental in having a bill pass the State Legislature for the erection of a special hospital for the care and treatment of contagious diseases of the eye, to be under the Health Department, but the medical officers to be nominated by the Council of the Academy of Medicine, New York, and appointed by the Mayor. The hospital to be situated in the city of New York.

[3] I wish to say that the eighteen cases of gonorrhœal ophthalmia here reported by no means represent the total number of gonorrhœal cases treated in the institution. The surgeons have not drawn distinct lines between purulent and gonorrhœal ophthalmias, but have classified most all purulent ophthalmias, whether due to a specific germ or not, as purulent ophthalmia when occurring in adults, and as ophthalmia neonatorum when occurring in infants. Hence this apparently small number of gonorrhœal ophthalmias reported.

Of this number 140,755 were contagious, furnishing 27.50 per cent. of the diseases of the eye. To recapitulate, I here subjoin a table showing the relative frequency of contagious diseases, and also the per cent. of all the diseases of the eye each furnishes.

	Number.	Contagious diseases.	All diseases.
		Per cent.	Per cent.
Contagious diseases	140,755	.....	27.50
Conjunctiva catarrhalis	108,778	77.28	21.25
Conjunctiva granulosa	21,757	15.46	4.25
Conjunctiva granulosa, with pannus	4,178	2.97	.82
Conjunctiva purulenta	2,678	1.90	.52
Conjunctiva neonatorum	2,374	1.69	.46
Conjunctiva gonorrhœica	638	.45	.12
Conjunctiva crouposa	86	.06	.017
Conjunctiva diphtheritica	266	.19	.052

From the tables of Cohn, thirty per cent. of the diseases of the eye are those of the conjunctiva, and most all of these are inflammatory and at the same time contagious. From the above tables we find that the contagious diseases of the conjunctiva furnish 27.50 per cent. of the diseases of the eye, which corresponds very closely to Cohn's tables; and when we remember that about two and one-half per cent. of the diseases of the conjunctiva are non-contagious, it makes the two tables coincide exactly. Therefore we may take it as established that 27.50 per cent. of the diseases of the eye are contagious. It is interesting to note here the percentage of the cases of blindness furnished by contagious diseases of the eye. Quoting from the tables of Magnus ("Noyes's Text-book," p. 698) we find contagious diseases furnishing 25.72 per cent. of cases of incurable blindness in children under twenty years of age, and 20.72 per cent. of blindness in both adults and children; ophthalmia neonatorum alone, which furnishes but .46 per cent. of all diseases of the eye, furnishing 23.50 per cent. of the cases in children and 10.8 per cent. in adults and children; gonorrhœic ophthalmia and trachoma furnishing 1.81 per cent. of blindness in children and 9.49 per cent. in adults; diphtheritic conjunctivitis furnishing .44 per cent. of blindness in children and .35 per cent. in adults and children. It is thus observable from the foregoing tables that constituting 27.50 per cent. of all affections of this organ, the contagious diseases of the eye furnish 25.72 per cent. in children and 20.72 per cent. in both adults and children, of the incurable cases of blindness. This is a deplorable condition indeed, when we remember that ophthalmia neonatorum, as well as most of the contagious diseases of the eye, are, in a measure, preventable. Surely prophylaxis is our salvation in contagious eye diseases. And here that golden rule of surgery, "Cleanliness is godliness," should be most rigorously adhered to. Credé and Hausmann have found that by early antiseptic proceedings, both in the mother and child, the percentage of ophthalmia neonatorum cases are greatly reduced. Hausmann especially recommended keeping the vagina of the mother cleansed a few days before and during parturition with an antiseptic solution, while Credé dropped a single drop of a two per cent. solution of silver nitrate between the lids of the child immediately after birth. Credé reduced the number of cases in this way, in the Lying-in Hospital of Leipsic, from seven and one-half per cent. to .5 per cent.

As to the further treatment in these cases, I will go more into detail in the special statistics to follow.

Besides the foregoing general statistics I have, by the consent of the surgeons—Doctors Roosa, Webster, Pomeroy, and Emerson—collected the statistics of the last 38 contagious cases treated in the Manhattan Eye and Ear Hospital. Eighteen of these were treated for conjunctivitis gonorrhœica; 4 for conjunctivitis neonatorum, and 16 for purulent conjunctivitis—in all 38 cases. Of the 38 cases 23 were males, 15 females; 18 had both eyes affected, 22 one eye affected, making 58 eyes in the 38 cases. Seventeen of the cases were seen during the first week, the remainder any time from eight days to thirty days after the eyes were affected. Of the 58 eyes 22 had clear corneæ, 36 had either ulcerated, perforated, or sloughed corneæ. Out of the 22 eyes with clear corneæ 15 made perfect recovery without the cornea being implicated; 1 ulcerated, 4 perforated, 2 sloughed. The one that ulcerated obtained $\frac{20}{100}$ vision. Of the 4 that perforated 1 obtained $\frac{20}{40}$ vision; 1, $\frac{20}{70}$; 1, $\frac{3}{200}$; 1, perception of light. Of the 2 that sloughed, 1 perception of light; 1, nil. To recapitulate. Out of 22 eyes with clear corneæ 15 obtained perfect vision, 4 useful vision, 2 perception or light, and 1 only absolutely lost.

Of the 36 affected corneæ 20 had perforated, 9 had ulcerated, and 7 had sloughed. The 4 ophthalmia neonatorum cases furnished 3 of the eyes with affected corneæ—1 had an ulcer which left a slight opacity, the other 2 had perforating ulcers which left opacities with anterior synechiæ. The remaining 33 eyes with affected corneæ were in adults. Eight had ulcers, 18 perforation with anterior synechiæ, 7 had sloughs. Of the 8 eyes with ulcers 1 obtained vision $\frac{20}{40}$; 1, $\frac{20}{70}$; 1, $\frac{20}{50}$; 1, $\frac{20}{100}$; 1, $\frac{3}{200}$; 1, $\frac{18}{200}$; 1 fingers at eighteen inches; 1 perception of light. Of the 18 with perforations 12 obtained perception of light; 2, fingers at eighteen inches; 1, $\frac{5}{200}$; 1, $\frac{1}{200}$; 1, nil; 1, unstated. Of the 7 eyes with sloughed corneæ vision was nil, or 0, in all of them. We have therefore in the 36 eyes with affected corneæ 1 with perfect vision—$\frac{20}{15}$—in the case of a man with gonorrhœal ophthalmia contracted from acute gonorrhœa from which he was suffering at the time; 8 with useful vision; 3, fingers at eighteen inches; 13 with perception of light, and 8 with absolute failures. Three of the 36 eyes were ophthalmia neonatorum in children, above noted.

To recapitulate. Upon the 58 eyes treated for gonorrhœal ophthalmia, purulent ophthalmia, and ophthalmia neonatorum, perfect recovery resulted in 16 cases, or 27.59 per cent.; useful vision in 11 cases, or 18.96 per cent.; perception of light in 15 cases, or 25.86 per cent.; fingers in 3 cases, or 5.17 per cent.; opacities and synechiæ (in children) 3 cases, or 5.17 per cent.; absolute failure in 9 cases, or 15.52 per cent.; unstated in 1 case, or 1.73 per cent. The youngest subject—excepting the ophthalmia neonatorum cases—a boy, was seven years of age, and the oldest, a woman, sixty-five years of age.

Treatment.—The treatment in the ophthalmia neonatorum cases has consisted, to begin with, in protection to the well eye, if only one is affected. In a majority of the cases cleansing the affected eyes every fifteen to thirty minutes with a saturated solution of boracic acid, day and night, has been practised. And lately, and to this point I wish to call special attention, to keeping vaseline in abundance between the lids, even to filling the fornix, during the intervals of cleansing. At times very finely powdered boracic acid has been mixed with the vaseline, as Dr. Wilson,[1] of Bridgeport, Conn., who first proposed and used the remedy, suggested. Peroxide of hydrogen, full strength, dropped between the lids has been used to aid in cleansing all the pus from the eye that chanced to remain after using the saturated solution of boracic acid, and to good effect. However, it is well to be careful with this drug, as it is not altogether without danger where there is extensive ulceration of the cornea. Bichloride of mercury (1 to 5,000) has been used as a spray three times a day. In the later stages of the disease silver nitrate (ten grains to the ounce) has been applied with a camel's-hair brush to the everted lids once in twenty-four to forty-eight hours. Roosa advises strongly against silver in any form, save in the later stages of this disease. In corneal complications atropine (two grains to the ounce) and eserine (one grain to the ounce) have been used as indicated—the atropine when ulcer was at the centre of the cornea, and eserine when the ulcer was at the margin. Too much stress cannot be laid upon the importance of keeping the space between the lids and the

[1] Dr. Joseph A. Andrews, of New York, in the New York Medical Journal, October, 1885, recommended an ointment of vaseline and six per cent. boric acid for conjunctiva in purulent ophthalmias in the active stage, but soon abandoned it, save in the last stages of the disease.

fornix full of vaseline continually, for it acts not only mechanically as an emollient but as a protective to the corneal ulcers from germs.

The treatment in purulent ophthalmia in adults has been as varied as it has been unsatisfactory. First, protection to the fellow-eye by Buller's shield, or lint and plaster. Second, iced cloths continually to affected eye till pain is relieved, and afterward off and on often enough to control the pain and to aid in reducing the violent inflammation. Third, cleansing night and day every fifteen to twenty minutes with a saturated solution of boracic acid. Fourth, bichloride spray (1 to 5,000) three times a day. Fifth, vaseline between the lids, filling the fornix during the intervals of cleansing. (This has been practised since Dr. Wilson's first report of its beneficial effect.) Sixth, blue pyoctanin (one to two grains to the ounce) was tried in a few cases, but with no better results than those treated otherwise. Where there was great pressure on lids canthotomy was practised, and in a few cases where there was great chemosis of the ocular conjunctiva scarification of the œdematous conjunctiva. In no case has a vertical incision through the upper lid, as recommended by Critchett, been practised. Since Dr. Wilson's suggestion of vaseline between the lids as a treatment, it has been used largely in the Manhattan Eye and Ear Hospital, but in conjunction with other treatment. The percentage of recovery in these cases has been greater than those treated by any other method, but the cases have not been of sufficient number to give statistics upon. This method is employed by Drs. Emerson, Wilson, and F. W. Ring especially. In the later stages of the disease silver nitrate (ten to twenty grains to the ounce) has been applied with camel's-hair brush to lids once a day in some of the cases. In corneal complications atropine (two grains to the ounce) and eserine (one grain to the ounce) have been used, according to the location of the ulcer, as indicated. In some of the cases with very copious discharge, late in the disease, and with large corneal ulcers, hot water has been used to advantage. The results of this treatment are shown by the special statistics of the fifty-eight cases reported above.

I have, more especially for the benefit of students and general practitioners of medicine, added to the foregoing statistics a short review of the contagious inflammatory diseases of the eye.

In dealing with the different contagious diseases of the eye it will be well to remember that they cannot be considered as so many distinct processes, each confined to well-defined limits and running a definite course, for there is neither sharply marked clinical nor pathological distinctions between the different processes in these diseases. In fact, following Meyer, "they must be regarded as different modifications of the same pathological process rather than as so many morbid entities." These modifications depend on various circumstances: on the general condition of patients, on immediate hygienic surroundings, on intensity and kind of inflammatory material, on intensity and duration of the process, and on the state of the tissues at the time of infection. Nor does it follow by any means that inoculation from one contagious disease will always produce that identical disease and nothing else—a catarrhal conjunctivitis producing a catarrhal conjunctivitis, and that alone, or a trachoma producing a trachoma, and only a trachoma. A simple catarrhal conjunctivitis may, and usually does, produce a catarrhal conjunctivitis, but it may produce a purulent or even a granular or diphtheritic conjunctivitis. This fact has been noted by different authors, from Stellwag, who in these diseases may be considered classic, down to the most recent authors. Stellwag[1] says "that a trachoma by no means always results from such a transferrence of the trachomatous secretion. On the other hand, again, the secretion of a pure catarrh or pure blennorrhœa, a urethral discharge brought in contact with the conjunctiva, may excite not only a blennorrhœa, but also a mixed or diffuse trachoma." But, to quote a more recent author, Meyer, we have this declaration in regard to the etiology of purulent ophthalmia: "What seems to be of more importance is, that the inoculation of the products of the secretion does not always produce the same form of the affection. We try to explain this fact by the varying condition of the soil which receives the infectious matter. Thus in one case of inoculation we see a simple catarrhal ophthalmia resulting; in another, a purulent conjunctivitis; and in a third, especially if the disease is epidemic, a diphtheritic ophthalmia."

I do not affirm but that a catarrhal conjunctivitis as a rule produces a catarrhal conjunctivitis, a trachoma a trachoma; yet I believe there are exceptions, many exceptions, to this rule, and that a catarrhal conjunctivitis may not only produce a catarrhal conjunctivitis, but also a purulent, a trachomatous, or even a diphtheritic conjunctivitis. And though Sattler, Neisser, and Weeks have found and isolated micrococci in trachoma, gonorrhœal ophthalmia, and catarrhal conjunctivitis ("pink-eye"), and have produced the same diseases from pure cultures of these germs, yet these observations have not been sufficiently confirmed by other observers; especially is this the case in regard to trachoma and pink-eye. Schmidt-Rimpler could not find the diplococcus of Sattler and Michel. That most of the purulent and plastic inflammatory diseases of conjunctiva are due to a micrococcus there can be but little doubt, but that they are due to a distinct micrococcus there is some doubt; for if so, then the same distinct micrococcus must produce more than one disease, or in the production of one disease there must be more than one distinct micrococcus to have the present existing state of clinical facts which we have presented to us at the large clinics daily. We thus leave the etiology of these diseases in doubt. But to take them up briefly one at a time, we have to consider:

I. Catarrhal Conjunctivitis is a hyperæmia of the conjunctiva accompanied by a muco-purulent secretion, occurring in endemics and epidemics generally, and has a strong tendency to recovery. It may be idiopathic or symptomatic.

Pathology.—Anatomically it is a swelling and proliferation of the papillæ and epithelium of the ocular and palpebral conjunctiva.

Etiology.—Mechanical causes—as heat, light, smoke, dust, unhygienic surroundings, as in over-crowded tenement-houses, ill-ventilated and crowded charitable institutions and hospitals; locality—as seaside resorts, where there is heat, glare, and dampness, or on the plains from sand, heat and wind; symptomatic—as after the various exanthemata; contiguity of tissue—as from facial erysipelas, eczema, etc.; relaxation of tissue—as in old age; and by direct contagion, by transmission of specific germs into the eye, which seem in some cases to be communicable by the atmosphere.

Symptoms.—Hyperæmia and swelling of the conjunctiva, rise of temperature in severe cases, pain, photophobia, burning and sense of dryness of conjunctiva in the first stages, followed by muco-purulent secretion which glues the lids together in the morning. This secretion may become a purely purulent one. Finally, we have impairment of vision.

Diagnosis.—Mildness of the inflammation, as a rule; the fact that it occurs in endemics and epidemics, and in pink-eye by the microscopic examination of the secretion.

Treatment.—Place the patients in large, well-ventilated and lighted rooms, and especially, in hospitals and asylums, to keep them isolated from the remaining patients; cleansing often enough to keep clean; mild astringents, as saturated solution of boracic acid, alum-wash (drachm to the pint), etc.; cold compresses in severe cases, nourishing diet.

Duration.—One to three weeks as a rule.

Prognosis.—Favorable. However, it may, and often does, produce acute trachoma, and not infrequently blennorrhœa or purulent conjunctivitis, with the attendant

[1] Text-book of Diseases of the Eye, p. 331.

evil effects, as entropion, ectropion, ulceration of cornea, pterygium, etc.

II. Granular Conjunctivitis (Trachoma) is, speaking in a comprehensive way, a hyperæmia of the conjunctiva, especially the palpebral and fornix conjunctiva of the eye, with swelling and hypertrophy of the epithelium and papillæ, and perhaps with formation of new granules (Belgian authorities). It is usually accompanied by a small amount of secretion, and in acute trachoma by free secretion; is of long duration and accompanied, in many cases, by Sattler's and Michel's diplococcus.

Pathology of Acute Trachoma.—Anatomically, swelling of epithelium and papillæ, with whitish, round granulations about the size of millet-seed, non-vascular in appearance and situated just below the level of the mucous membrane, between the swelled papillæ. There is also a serous infiltration in the conjunctiva.

Pathology of Chronic Trachoma.—In chronic trachoma we have three or four stages of the same pathological process, which for convenience of description and accurateness of portrayal we will follow the old classification of Stellwag and give in the following order: 1. Pure granular or follicular trachoma. 2. Papillary. 3. Mixed and diffused; the mixed being a combination of the pure granular and papillary, while the diffuse is only an advanced stage of the mixed, and should, I think, be described under the same heading.

Pure Granular Trachoma (Follicular — Meyer and Noyes) consists anatomically of semi-transparent, spawn-like follicles, situated chiefly in the fornix conjunctiva, with swelling of epithelium.

Papillary: Anatomically is hypertrophy of the papillæ and epithelium of the papillary conjunctiva, accompanied in advanced stages by serous infiltration around the swollen papillæ. It is a low form of inflammation characterized by a glistening white tarsal conjunctiva in the earlier stages studded over by very small semi-transparent granulations, disseminated in or arranged in rows upon the tarsal conjunctiva, and sometimes in the fornix or even upon the ocular conjunctiva at the angles of the eye. The anatomical nature of the follicles themselves is a disputed point, some claiming them to be true hyperplasia of the lymphatics of the conjunctiva, while the Belgian authorities in particular think they are a new formation altogether.

Mixed: Mixed trachoma, pathologically, is a combination of the above two, only here we have increase in the size of the granulations with a vascular plexus covering them. The conjunctiva is red and infiltrated, secreting a muco-purulent fluid, which, if it last a long time, causes a serous infiltration of the papillæ. Diffused trachoma is simply an advanced stage of the mixed variety, characterized by rough, fleshy formations upon the conjunctiva, formed by the blending of the old granulations with the swollen papillæ. However, not unfrequently, there is swelling of the lids and destruction of the cartilage in this affection. New granulations continue to form all the while.

Etiology of Acute Trachoma.—Direct contagion, unhygienic surroundings, injuries, catarrhal conjunctivitis.

Etiology of Chronic Trachoma.—Micrococci (the diplococcus of Sattler and Michel) unhygienic surroundings, acute trachoma, injuries, age (between twenty and forty being the most susceptible age, while youth and old age are much less liable).

Symptoms of Acute Trachoma.—Considerable swelling of lids, redness and injection of orbital and palpebral conjunctiva, swelling and redness of the papillæ, and interspersed between the papillæ are small whitish spots, which are true granules, and form the diagnostic symptoms of acute trachoma; muco-purulent secretion, which at first is scanty but becomes rather abundant in the second stage of the disease, and may become purulent in character; photophobia; pain in eye and forehead; impairment of vision.

Symptoms of Chronic Trachoma.—The symptoms in chronic trachoma are very mild at first. In fact the disease oftentimes creeps on unawares for months before the patient is aware of the fact of the serious nature of his affection. And that it is a serious affection cannot be too much emphasized. I once heard an eminent oculist say he had rather have a case of small-pox than a case of chronic trachoma, and I am not sure but that I share the same opinion. The first thing usually noticed is a sticking together of the lids upon rising in the morning, soon followed by a feeling as if sand was in the eye. Frequently there is a slight drooping of the upper lid, so that by this symptom alone we are sometimes able to diagnose trachoma before everting the lids. Vision is more or less impaired. Upon everting the lids we find a condition, according to the stage of the process, which we have already described above under granular or follicular conjunctivitis, papillary conjunctivitis, and mixed or diffused conjunctivitis.

Diagnosis of Acute Trachoma.—The small white spots or granules between the greatly swollen papillæ is pathognomonic, and when taken together with the swelling of the lids and the rather free secretion cannot easily be mistaken.

Diagnosis of Chronic Trachoma.—By long practice. History of the case.

Treatment of Acute Trachoma.—Is nearly wholly expectant, the thing most desired being to have just enough inflammation to cause a resorption of the granules. If the inflammatory process be very great, iced cloths to control it; if it assume the nature of a purulent ophthalmia, treat it as such; if it becomes chronic trachoma, treat it as a chronic trachoma. It must not be forgotten that spontaneous recovery sometimes takes place in these cases, occurring in those cases where there is just irritation enough to cause resorption of the granules. Cleansing with a saturated solution of boracic acid often enough to keep clean, and spray of bichloride of mercury (1 to 5,000) three times a day, is usually enough active treatment. Hygienic surroundings are important.

Treatment of Chronic Trachoma.—Granular or Follicular Trachoma may get well spontaneously also, but the manner in which this spontaneous recovery takes place is a disputed point, Noyes claiming, in trachoma with conspicuous lymphoid infiltration, that the superficial lymphoid follicles ulcerate and disappear in that way sometimes; while Stellwag asserts—long ago, to be sure—that they never disappear by ulceration or suppuration. Spontaneous recovery occurs most frequently in children. Follicular or pure granular conjunctivitis should never be treated by caustic or strong astringent applications, they do more harm than good. In the mild cases the lids everted and pencilled with a very mild solution of silver nitrate (two grains to the ounce), or touched with alum-stick three times weekly, may be practised with benefit. In severe cases where the follicles fill up the fornix, even forming folds, the remedy *par excellence* is to squeeze the lymphoid material out of the follicles with forceps—the most suitable forceps is that invented by Noyes. This causes considerable traumatism, and is to be followed by iced cloths and cleansing, and, after the reaction subsides, by pencilling the lids lightly with sulphate of copper crystal three or four times weekly. The duration of treatment altogether lasts from two to six weeks. This squeezing operation can be done either under cocaine (ten per cent. solution) applied by pledgets of cotton on the everted lids, or under ether. At the Manhattan Eye and Ear Hospital we always place the patient under the influence of ether. Noyes has reported one case of recurrence of the follicles after squeezing. Excision of the follicles, when very abundant, has been practised, but this, though a sure cure, is rather an extreme measure.

Papillary Trachoma. At Manhattan we find the local application to the lids with camel's-hair brush of bichloride of mercury (1 to 500 to 1 to 250) twice daily almost a specific. Where there is a scanty secretion sulphate of copper crystal touched to the lids, and pushed well up

into the fornix once a day, has been the sovereign remedy in the past, and is on every surgeon's cabinet yet, though we find that after a while it loses its effect and some other stimulant must be employed, as alum crystal, bichloride (1 to 250) painted on lids with brush, etc. Where the secretion is free, silver nitrate (ten to twenty grains to the ounce) painted on with camel's-hair brush, is a most useful remedy. Cleansing the eyes three times a day with bichloride spray (1 to 5,000) is good practice. Nutrition and hygienic surroundings are all-important in conjunction with the active treatment.

In trachoma with pannus, jequirity powder, made from the jequirity bean, dusted in the eye on the cornea and followed by iced cloths, is the favorite remedy practised at Manhattan Eye and Ear Hospital. It sets up inflammation similar to, but milder than, that caused by the secretion from acute gonorrhœa, forming membranes both on the lids and the cornea in the course of twenty-four to forty-eight hours, which separates from the lids and cornea taking with it the plexus of blood-vessels and swollen epithelium, in this way leaving the cornea clearer. Dr. Gruening, in severe cases of pannus, has recommended and practised scraping the cornea with a sharp knife. A very late treatment for papillary trachoma is incisions in the tarsal conjunctiva, extending even into the fornix, parallel to the free border of the lids, and each incision cauterized by a needle heated by electricity drawn from one end of the incision to the other.

Duration of Acute Trachoma.—Three to five weeks. When it runs its course in this time and terminates in recovery it is usually called Egyptian ophthalmia.

Duration of Chronic Trachoma.—One year to a lifetime.

Prognosis of Acute Trachoma.—Not very favorable.

Prognosis of Chronic Trachoma.—In follicular trachoma, by the latest modes of treatment, favorable. In papillary and mixed, unfavorable.

III. Purulent Conjunctivitis is a hyperæmia and swelling of the conjunctiva and lids of the eye accompanied by a copious purulent secretion in which, in gonorrhœal ophthalmia and ophthalmia neonatorum, is usually found the gonococcus of Neisser. Purulent conjunctivitis may properly be considered under three headings: First, Blennorrhœal conjunctivitis; second, gonorrhœal ophthalmia; third, ophthalmia neonatorum. The first, or simple blennorrhœal conjunctivitis, differs from catarrhal conjunctivitis only in degree of severity. The second and third are characterized usually by a micrococcus, the gonococcus of Neissier.

Pathology.—Anatomically same as that of a catarrhal conjunctivitis, only the epithelium and papillæ are much more swollen than in the former.

Etiology.— Unhygienic surroundings, inoculation by direct transmission of infectious material into the eye, as from specific urethritis or vaginitis, or even from a simple leucorrhœal or lochial discharge; catarrhal conjunctivitis, acute or chronic, and by metastasis.

Symptoms are those of acute catarrhal conjunctivitis much intensified; especially is this the case in regard to the secretion, chemosis, and swelling. The secretion at first is that of a muco-purulent type, but later in the disease becomes a purely purulent discharge and is very copious, even running over the lids on to the cheeks, and finally assumes a muco-purulent type a second time, as at the beginning. The swelling of the lids is very marked, causing the folds of the skin of the upper lid to be obliterated. The chemosis of the ocular conjunctiva in severe cases is very great, sometimes even overlapping the edges of the cornea. The epithelium and papillæ of the palpebral conjunctiva are greatly swollen and hypertrophied. The subjective symptoms are intense pain, photophobia, and in severe cases neuralgic pains in the temples and forehead. There may be febrile reaction in weak or nervous patients. When purulent ophthalmia is of a specific nature it is always more intense, and the mortality to the eye greater than when a simple blennorrhœa. As a rule the first eye infected is the worse. The second eye may become infected, though thoroughly protected, which can be explained only by a metastatic process first called attention to by Haltenhoff. In the metastatic cases the inflammation is very mild and of short duration. The period of incubation in gonorrhœal ophthalmia is about forty eight to seventy-two hours.

Diagnosis.—The great swelling and redness of lids, marked chemosis of ocular conjunctiva, and copious discharge of pus from eye over the cheeks, together with the history of the case and the aid of the microscope, make it easy of diagnosis.

Treatment.—The treatment in detail in purulent ophthalmia has been given in the special statistics of the fifty-eight cases of purulent ophthalmia reported above, and it would be only a repetition and loss of time to repeat it here.

IV. Phlyctenular Conjunctivitis is a hyperæmia of limited spots of the ocular conjunctiva, characterized by a serous or purulent exudation at these points, with elevation of the epithelium causing phlyctenulæ or blebs. Its chief characteristic is its tendency to recurrence. It occurs mostly in children.

Pathology.—Anatomically consists of local infiltrations of grayish nodules in the conjunctiva just beneath the epithelium, and later in the disease at these points there is an exudation of serous or purulent secretion beneath the epithelium, causing it to be raised up; enlargement and tortuosity of a limited number of blood-vessels of conjunctiva, which form a point at the bleb and spread out in the shape of the letter V from this point; destruction of the epithelium and ulceration at situation of bleb.

Etiology.—Age forms a great part in the production of this disease, it occurring chiefly in children, Meyer claiming that scrofulous children are no more liable to contract it than non-scrofulous, while Schmidt-Rimpler and most modern writers think scrofulous children especially liable to it. Unhygienic surroundings also form a most important factor in producing this disease. Astigmatism has been brought forward as one cause by Mr. Martin, of Bordeaux. Finally, bad and improper food.

Symptoms.—The subjective symptoms are pain and burning of conjunctiva, together with a sense of dryness and photophobia. The objective symptoms, small, grayish nodules, vesicles, or pustules on the conjunctiva, with a strip of blood-vessels running from them. The vesicles may be large or small, and may be far from the cornea, or they may encroach upon it. The farther they are situated from the cornea the quicker they get well. These blebs or pustules have three stages. First, exudation; second, ulceration; third, healing. The general health of the child is, as a rule, in a poor condition.

Diagnosis is very simple; it only requires to separate the lids and make the observation of the phlyctenule.

Treatment.—Diet the patient; stop all tea and coffee, all sweetmeats, as candy, cakes, etc. Give milk, oatmeal, rice, hominy, potatoes, eggs, fresh meat once a day, and ripe fruit in limited amount. The yellow oxide of mercury (eight grains to the ounce) between the lids once a day is almost a specific when taken in conjunction with the diet. Calomel dusted into the eye once a day has been recommended highly, but no iodine should be given internally while the calomel is being dusted in the eye, as it is thought to form mercurial iodide, which is a caustic. It is doubtful, however, how the calomel acts, whether mechanically or as a bichloride. Vesicants, leeches, and strong caustics are never to be used. Strict hygienic surroundings should be insisted upon.

Duration.—From one to two weeks.

Prognosis.—Favorable. The only unfavorable factor being its tendency to recurrence.

V. Plastic Conjunctivitis may be considered under two headings, Croupous Conjunctivitis and Diphtheritic Conjunctivitis. The two varieties may be considered under the same head without impropriety, as they are different degrees of the same disease. The process may

involve only isolated spots of the conjunctiva, or it may involve the whole thickness of that membrane, becoming a true diphtheritic conjunctivitis, which is, however, a very rare occurrence, never occurring in newly born children. It is thought to be due to a distinct germ.

Pathology.—The ocular conjunctiva has in the beginning a large vascular net-work, pale in color, covering it, and there is at the same time a pale yellow chemosis, with apoplectic spots in the conjunctiva at times. The subconjunctival tissue is infiltrated, with coagulated fibrin. The palpebral conjunctiva is of the same color as the ocular conjunctiva, and so deeply infiltrated, in true diphtheritic cases, with fibrous exudation that most of the blood-supply is cut off, giving to the conjunctiva even a lardaceous appearance. In the croupous variety the exudation is limited to the surface, and often to isolated spots of the conjunctiva, and is not infiltrated deeply into the substance proper, being easily rubbed off; while in the true diphtheritic variety the infiltration is deep, involving the whole thickness of the membrane, and cannot be removed. There is compression of the blood-vessels in the true diphtheritic form, due to the infiltration of coagulated fibrin into the tissues.

Etiology.—Micro-organisms; direct transmission of infectious material from one eye to another; injuries; caustics; contiguity of tissue; vaginal secretion from mother in childbirth (Stellwag); while, interesting to relate, Meyer claims that diphtheritic conjunctivitis never occurs in new born children. This disease usually occurs in epidemics and is a local manifestation of a general disease. It may occur in a protected eye by metastasis. In this place a quotation from Meyer ("Text-Book," p. 823) will not be amiss. He says: "Although the diphtheritic disease is eminently contagious it must be kept in mind that inoculation does not produce always the same disease, but perhaps a catarrhal or purulent affection of the conjunctiva; while, on the other hand, inoculation of purulent matter may produce diphtheritic conjunctivitis." Another important and interesting fact in the etiology of plastic conjunctivitis is, that inflammations of mucous membrane are most rarely accompanied by fibrous exudations, and when it does occur it is absolutely necessary to have a break or excoriation of the epithelium of the conjunctiva to have a plastic exudation.

Symptoms.—In the beginning of this disease we have, as subjective symptoms, heat, pain, photophobia. As objective symptoms, swelling and stiffness of the lids, with a rose-colored blush of the outer surfaces, patches of membrane of a grayish dirty color, which can be easily removed in the croupous variety, but cannot be in the diphtheritic conjunctivitis proper, this being a diagnostic point between the two. There is more or less discharge from the eye, composed of flakes of membrane and epithelium floating in tears, and a muco-purulent secretion. In five to ten days the secretion changes to a purulent nature, but still has masses of coagulated fibrin floating in it, the swelling decreases and the lids become less stiff and lose their leathery feel. The vessels reappear on the conjunctiva, and patches of the membrane come away *en masse*, leaving the conjunctiva denuded, which becomes covered with papillary excrescences, and the disease assumes the form of a true purulent conjunctivitis. The yellow color of the conjunctiva disappears at the same time. If the cornea becomes affected early in the disease it will almost certainly slough and the eye be lost. The later it is affected, as in the other contagious diseases of the eye, the better the chance for the recovery of the eye. During the healing process cicatrices often form between the ocular and palpebral conjunctiva, binding them together. Even xerophthalmia may occur. The longer the first stage the shorter the second, and *vice versa*.

Diagnosis.—The stiff, leathery feeling of lid, with a rose-tinted blush, together with the membrane on conjunctiva (palpebral), and oftentimes with diphtheritic spots in nose or throat, and the history of the case, are sufficient to establish a diagnosis.

Treatment.—Protection to opposite eye and to attendants. Antiphlogistics, as iced cloths and cold compresses in the earlier stages. Mild astringents. Bichloride of mercury as a spray four times daily, cleansing with saturated solution of boracic acid sufficiently often to keep eye clean. Silver nitrate has been recommended in the purulent stage by some authors, but I think it very bad practice, as we know that the nitrate of silver can, and does sometimes, produce a membranous conjunctivitis. Quinine in small doses has been strongly recommended. Treat the general condition with nourishing food and stimulants.

Duration.—Three to eight weeks.

Prognosis.—In croupous conjunctivitis favorable, in the true diphtheritic conjunctivitis the most unfavorable of any contagious disease of the eye.

THE THERMAL WATERS OF NEUENAHR.

By PAUL UNSCHULD, M.D.,

RESIDENT PHYSICIAN OF THE PLACE.

The writer of these lines begs pardon for venturing to bring under the notice of American readers some particulars of a watering-place which already ranks among the famous spas of Europe.

Neuenahr lies on a tributary of the Rhine, in the valley of the Ahr, at an elevation of 86.60 metres above the level of the sea. Neuenahr is surrounded by ranges of hills, rising to the height of 400 metres, which for miles are covered with woods. Two conical basalt peaks, crowned with the ruins of old castles, stand like watchmen on either side of the place. The climate is mild (mean yearly temperature being 51°, that of the summer months being 65.1° F.) and is free from sudden changes; the atmosphere is moderately dry, uncommonly pure, and rich in ozone—all those factors which pollute the air in towns and industrial countries being absent. This renders Neuenahr particularly suitable as a place for treatment to those who, by dint of overwork, or being overtaxed in their mental or emotional powers, require relaxation and strengthening of their whole nervous system. For such patients even our lovely country offers a factor of health. The romantic beauty of the Rhine is famed throughout the world, and our vale of the Ahr is the brightest jewel in the crown of the Rhine. Our valley can boast, too, of some historical fame. The brave race of the Treviri reigned here, and to those who have read Walter Scott's novel, "Quentin Durward," it may not be uninteresting to know that the Wild Boar of the Ardennes, William de la Marck, belonged to our nobility. Also the founder of the cathedral of Cologne, Archbishop Hochstaden, was a native of Neuenahr. The minister von Stein, who in the beginning of this century prepared the way for Bismarck, was the possessor of Landscron castle.

But more interesting to us are the healing powers of our thermal springs, which may be compared with those of Vichy, Carlsbad, and Ems. These four alkaline springs are, in fact, the only warm alkaline ones we have. Their chief constituents consist of bicarbonate of soda, sulphate of soda, carbonate of magnesia, bicarbonate of lime, chloride of sodium, a small quantity of lithia, and iron. Carbonic acid is more abundant than in Carlsbad and Vichy. The names of the springs are: Kleiner Sprudel, 14° C. (not used for drinking); Augusta Quelle, 27° C. (with little carbonic acid); Victoria Quelle, 27° C. (with more carbonic acid), and Grosse Sprudel, 37° C. (richly impregnated with carbonic acid). The amount of carbonic acid escaping from the incessantly bubbling and seething waters some days rises to such a degree that it is dangerous even for man to approach, and other living beings which may come into the reach of this exhalation are often seen to fall down dead. With regard to the salutary effects of our thermal springs the same indications and contra-indications may be given, on the whole,

for them as for other alkaline wells, yet, it may be permitted to mention the diseases in combating of which Neuenahr has proved especially efficacious.

The best results are obtained in the various complaints of the stomach. Carlsbad, Marienbad, Franzensbad, and Bohitsch are generally placed before Neuenahr as watering-places in these cases; but, without considering that any mineral-water cure has to be regulated according to the effects on the chemical action of the stomach, there are especial indications in question for each particular place. Above all I give weight to the degree of heat in the waters. In cases of nervous dyspepsia, atony, and hyperacidity, the sensation of thirst is generally increased. This symptom is speedily removed by the use of a warm mineral water. Warm water is easily taken in by the stomach and quickly absorbed. The greater the quantity of water taken in a short time, the nearer its temperature must be to the warmth of the blood. The waters of cold springs are therefore artificially heated before being taken. The waters of Neuenahr have the suitable temperature, the very warmth of the blood. This is the reason for their good effect in the treatment of simple and chronic catarrhs of the stomach, also in that of chronic ulceration.

At the Congress of Physicians, in the spring of 1888, the author of these lines delivered a lecture on this subject, quoting, among other interesting cases, one in particular of a lady who, having been suffering for twenty-five years, having passed from one infirmary to another without relief, had become addicted to morphine. Her medical adviser thought her afflicted with carcinoma. She could not retain any food, she repeatedly had violent vomiting of blood, and was quite emaciated and drawn together with pain; indeed she bore the aspect of one hoplessly lost. Her cure at Neuenahr was no sudden one, it required many months before she recovered, but then she was quite restored, and is now, after the lapse of many years, living in good health at Arnheim. It is easy to conceive that alkaline waters must act favorably in cases of ulcer of the stomach, for, according to our most modern inquiries, the ulcer in the stomach is the secondary and the hyperacidity the primary condition. Hemorrhage of the stomach, also, is believed to be due to excessive acidity. An addition of bicarbonate of soda to the thermal water forwards the effect, and its use is not in the least objectionable in cases of hemorrhage of the stomach.

A second group of diseases of the stomach which we treat with success are the neurasthenic forms and atonia ventriculi. The latter complaint appears very frequently in the present age, and is marked by its numerous complicated symptoms, by its tenacity, and the final issue in anæmia, enervation, and loss of flesh. Now Neuenahr acts in divers ways: 1, By correcting the hyperacidity, which is always present in atonic cases; 2, by relieving insomnia, through the perfect stillness which reigns here and the large amount of ozone in the air, abstinence of mental excitement, through free bodily exercise in our lovely vales and hills, and through the manifold means offered in the various kinds of baths, as well as in the hydrotherapeutic, electric, and dietary treatment.

It is indeed surprising to behold how such patients, having suffered for months, ay, years, having in vain tried various methods of treatment, after but a short stay in this place experience relief, regain appetite, increase in weight, and regain their former vigor of mind.

In affections of the liver and gall-stones Neuenahr is not less effective than Carlsbad, and those who have not been eased or cured in Neuenahr will not find relief in Carlsbad. It was only last summer I was treating here a gentleman who had been suffering from violent attacks of biliary colic; he returned home quite cured, after having passed above a hundred gall-stones. The explanation of this effect most probably lies in the increased alkalescence of the blood produced by the abundant use of our alkaline wells, by which a greater quantity of alkaline bile is secreted, capable of dissolving the concretions, and, by diminishing their size, rendering it more easy to expel them.

I need not enlarge on the effects of our waters with regard to catarrhs of the mucous membrane, diseases of the kidneys and bladder, as well as affections of the uterus; for that warm alkaline waters are generally advantageous in all catarrhal states of the body is everywhere acknowledged.

There remain to be mentioned, in particular, chronic rheumatism and gout. General opinion is in favor of alkaline mineral waters as the best medicament against gout, and Dr. Pfeiffer, at the Eighth Congress for Internal Medicine, in 1889, most clearly and convincingly proved this. Contrary to the present prevailing opinion he considers lithium to be indifferent in this disease. Experimenting, Dr. Pfeiffer found that after bathing for twenty days successively in Kochbrunnen (27.30° R.) the daily secretion of uric acid in the case of gouty patients was always considerably lessened; in most cases it was reduced one-half, in a few even only traces were left. Therefore, not only a rational internal use of alkaline waters, but also their employment in the form of baths, must be regarded as an important means to remove the uric acid diathesis. Neuenahr may boast of excellent results in cases of gout. Of course the manner of life and diet have to be regulated by the prescribed regimen. Nor can the cure be reckoned by days, but it will require a yearly repetition, and, may be, the taking of the Neuenahr waters in the time between.

Of late Neuenahr has gained great reputation, and even become a rival to Carlsbad in cases of diabetes mellitus. Every year more persons similarly afflicted resort hither, even those who formerly went to Carlsbad. The reason thereof is said to be that Carlsbad weakens too much, but that Neuenahr excites and invigorates. Without pretending to defend the truth of this statement, experience warrants me in holding that, in most cases, the secretion of sugar is diminished or stopped.

We do not pretend that these waters are a specific in all cases of diabetes. The most that can be done by any therapeutic measure in the majority of cases of this disease is to moderate its course and to raise the general tone of health and vigor, to stop the progress of the disease and delay the final result as long as possible.

A constant repetition of the treatment is advisable. In fact, we have already a pretty large number of diabetics who habitually frequent this place. And if we grant that the science of healing is able to prolong the life of the sick, undoubtedly it is here the case with diabetes, often even to the natural term of life. Frerichs, in his essay on diabetes, says, "the alkaline waters of Carlsbad, Neuenahr, and Vichy, in the treatment of this disease, are of much greater value than the simple carbonate of soda. My large experiences leave me no doubt that by the use of these waters the diabetic disturbances will be soon either quite removed, even if only for a certain time, or at least considerably lessened."

I beg leave to add that my own experience, embracing many hundreds of cases, makes me certain as to the favorable influence of the waters on the course of this disease.

During last summer Neuenahr was visited by 5,458 patients, among them 64 Americans.

The place possesses many climatic advantages compared with Carlsbad and the other warm alkaline springs. With the charms and quiet of country life it combines the comforts of an excellent Curhaus and other good hotels, as well as eating-houses, cafés, restaurants, and private lodging-houses. For Americans I can recommend Villa Humboldt. There are shady walks and very fine extensive grounds, and the bathing establishment will satisfy all balneological demands. The religious wants of the different confessions are duly attended to. Daily concerts, frequent evening parties, and a theatre during the season, bring change and solace to the visitors.

Trains starting from Bremen and Hamburg reach Neuenahr in ten to eleven hours; from Antwerp, Flushing, Rotterdam, in about seven hours.

THE TREATMENT OF RETRO-DISPLACEMENT OF THE UTERUS, WITH ADHESION, BY BRANDT'S METHOD.

By H. N. VINEBERG, M.D.,

NEW YORK.

In a short paper published in the New York *Medical Journal* for January 24, 1891, I gave a sketch of the origin and history of Brandt's system, and the impressions and observations gained during a stay of several weeks in Stockholm. I purposely refrained from any attempt at describing the method, because, as I stated in the paper, it was my belief that the various manipulations could be learned only from practical instruction, and not from descriptions, no matter how elaborate. But as many who are interested in this subject have found fault with the course I followed, and have expressed a desire to know more in detail about the method, it will be my aim in this communication to describe, as briefly and as clearly as I know how, the several manipulations Brandt employs for the cure of the different forms of backward displacements of the uterus with adhesions of varying degree. Although I do not underestimate the value of the numerous Swedish movements Brandt practises in addition to the special massage, and upon which he lays great stress, I will not dwell upon them in this paper. My reasons for this are: 1, Because, in my opinion, they can in a measure be substituted by exercise, such as walking and riding; and 2, because in this country, as yet, it would be impracticable even for the specialist to carry them out, calling as they do for a trained assistant and for time, patience, and expense on the part of the patient. Even when the general movements are ignored, doubtless the chief obstacles Brandt's method will encounter in its adoption by the specialist here are the time it consumes and the hard physical labor it involves on the part of the physician. These are considerations, however, which in these days of specialism ought not to carry any weight. On the contrary, they should be welcomed by the specialist, for they form the chief and most plausible argument for the *raison d'être* of his existence. The day is passing when the attainments of a gynecologist, in the fuller sense of the term, are limited to a carpenter-like dexterity, a sharp knife, and antiseptics, as wittily remarked by an eminent physician; for gynecology is making rapid strides toward the goal long ago reached by a kindred branch surgery, which saw in the new field opened up by antisepsis, not an opportunity for more reckless cutting, but for more conservative methods. The surgeon now no longer boasts of the number of limbs he has amputated, but of the number he has saved; he does not remove a kidney which he can save by cutting into and removing the diseased or foreign substance, and he does not excise an ankylosed joint when he can render it supple and useful by massage. In the same way the gynecologist in the near future will be proud of the number of ovaries he has saved, and not of those he has removed; he will aim at freeing an adherent uterus rather than fixing it in a different position, and he will try to strengthen the uterine supports rather than shelve the uterus upon an artificially made one or impale it upon a pessary. It seems to me that every new method in gynecology which has some promise in it should not be looked upon with the jealous eye of a rival. We should, on the contrary, greet it as a kind coadjutor whose powers to aid us in the perplexing problem of cure we are willing to test with friendly feelings free from prejudice or bias. After electricity has done all it can, after massage has accomplished all that can be reasonably expected from it, there will always remain a goodly number of cases over which the knife will hold its sway. The excuse for the resort to the knife has always been, excepting in cases of collections of pus and malignant disease, that "everything" had been tried and failed. But the "everything" on being analyzed was usually found to consist in painting iodine to the vault, introducing glycerine or borogyceride tampons in the vagina, and the employment of hot vaginal douches, usually imperfectly carried out. Let us hope that this opprobrium to the gynecologists' "everything" will be removed with the enrichment of pelvic massage and electricity to their armamentarium. It was thoughts similar to those expressed above that induced me last summer to go to Stockholm and Paris and make observations for myself. What those were that I made in Stockholm I have already put on record, and I need not repeat myself here.

To begin with the subject before us. It is pretty generally conceded that the treatment heretofore in vogue for backward displacements of the uterus, with adhesions, has been in the main unsatisfactory. The number of ingenious operations constantly devised for their relief is sufficient evidence of this. Many of these operations are difficult to perform, and in spite of improved technique and careful antisepsis they are not entirely free from danger. The sequelæ which sometimes follow them are worse than the disease for which they were done. The woman may now have, in addition to a fixed uterus, a stricture or obstruction of the bowels due to adhesions. But in pelvic massage and systematic stretching, on the other hand, we have a remedy which in careful hands is not only free from danger, but is the only true means that we possess of restoring the parts to their normal condition. Even when it fails to do this, it brings about a condition essential for the success of any operative procedure that may afterward be undertaken. Given a case of backward displacement, it is only rarely that the abnormal position of itself gives rise to any trouble. It is usually the adhesions, the shortened and thickened ligaments, and the new formations of cord-like tissue that cause the woman her aches and pains, and other symptoms for which she seeks the physician's aid. How true this is any one may prove for himself by recalling the very small number of simple uncomplicated displacements for which he has been consulted, say for the period of the past twelve months. A further proof is found in the fact that as soon as the uterus is freed from its adhesions all the symptoms almost invariably vanish, although the uterus may still retain the same faulty position as before.

Schultze was among the first to bring this clinical fact before the profession, and was the first, I believe, to show that a fixation of itself may constitute a displacement. A uterus may lie in ideal anteversion, but if its movements are restricted by perimetric adhesions or cicatricial bands its position is justly considered faulty, and the term displacement characterizes it.

Before we can make any attempt at replacing a uterus the adhesions must be gradually broken up and the cord-like bands and cicatricial tissue must be subjected to systematic stretching. The amount of force to be used in accomplishing this will necessarily vary with each case, and is dependent upon the firmness of the organized membranes and the sensations of the patient. While it may frequently be impossible to achieve much without causing some pain to the woman, the causation of any great degree of pain must be desisted from. The degree of pain evoked is not, however, a safe criterion as to the amount of force we may safely employ. For, as it is well known, many women are so sensitive that they will cry out with pain on the slightest touch, while others are so insensitive, or can control their feelings so well, that a dangerous amount of force might be used before a cry or wince would be elicited. A certain amount of tenderness is no contra-indication against stretching. Were this the case pelvic massage would have but a limited field. But any subacute process indicated by an elevation of temperature is an absolute contra-indication. So would also be unmistakable purulent salpingitis. In the em

ployment of stretching it is extremely important to keep in mind the condition of the tubes and ovaries. When chronic oöphoritis and catarrhal salpingitis, with adhesions, co-exist, the greatest caution must be exercised for fear of lighting up an acute attack. Under all conditions one must begin cautiously. "Better do little than too much at one sitting," is an oft-repeated injunction of Brandt's not to be ignored with impunity. One should never under any circumstance use such an amount of force as to tear an organized membrane and rupture a blood-vessel, which would be followed with the invariable result of a pelvic hæmatocele or inflammatory exudation. If one goes to work carefully at first, it will not be long before he will acquire, so to speak, an intuitive sense as to the degree of force he may employ with safety in a given case. Brandt lays down the rule that the stretching should only be continued as long as it is felt that the elasticity of the tissues yields to the force employed. Any stretching beyond this is certain to result in rupture of the tissues.

In order to carry out the stretching the patient is placed in the usual position for pelvic massage. That is, she lies in a modified lithotomy position on a short, low couch which is firmly upholstered, and possesses a movable head-piece which is placed at an angle of about seventy-five degrees to the surface of the couch. The patient's head and shoulders rest on the head-piece, and thus the greatest relaxation possible of the abdominal walls is obtained. The corsets are removed and the clothes are loosened, and every precaution taken not to unnecessarily expose the patient. The operator sits at the left side, near the lower end of the couch, with his knees widely separated so that the inner surface of the right knee rests against the left side of the couch—the left knee and lower third of the thigh embraces its left lower end. The operator's left knee serves the double purpose of giving support to his left elbow, and of preventing the patient from slipping down. The patient is brought well over to the side of the couch so that the operator is not constrained in his work. After anointing the left index-finger with vaseline (or it and the middle finger if the operator has rather small and short fingers) it is carried into the vagina under the left thigh at a moment when the patient is told to lift up her left leg. In this way soiling of the under-garments is avoided. The remaining three fingers of the left hand being left open rest on the perineum, and the thumb is held in wide abduction so as not to come into contact with the pubes. The stretching is chiefly done with the vaginal finger, aided by the right hand through the abdominal walls. The finger picks out the cord or ligament, makes it tense by pressing up against it, and the external hand tries to meet it and assist in stretching it. While the cord is still kept tense with the vaginal finger the external hand *massées* it, annulling the sensitiveness, and rendering it more flexible and yielding. Then an effort at stretching is made again, and thus the massage and stretching are done alternately, until we have accomplished as much as we may with safety at one sitting. Flaky adhesions are separated by the vaginal finger being placed against the point of adhesion, and the fingers of the external hand are made to peel the uterus away from the adhesions. When feasible the adhesions are stretched by catching the fundus between the vaginal finger and external hand and pulling it gently and steadily in a direction opposite to that of the adhesions. This manœuvre is easily executed in lateral fixations which frequently complicate posterior displacements. In some cases when the adhesions are situated high up, and in others with a deep vagina, the stretching can best be done with the patient in the standing posture, for then the pelvic contents naturally sink lower down. Sometimes it is possible to reach further up with the finger in the rectum than in the vagina, especially if the thumb is introduced in the vagina. This position of the fingers of the left hand is preferable in a number of cases, even when the fixation is low down. By it the bands and restricting cords are frequently picked out with greater ease, and put on the stretch. In some cases when both of the above manipulations have failed I have succeeded by seizing hold of the cervix with a volsellum and gently drawing the uterus down to near the entrance of the vagina. But of this again when treating of replacement. When the stretching is done through the rectum one must guard against the common error of merely pushing the rectal wall forward instead of actually distending the adhesions. The stretchings are always preceded by *massée-ing* the abdomen in the region of the umbilicus and going downward until the uterus is reached. This procedure pushes the intestines out of the way and opens up the large lymph duct. When the uterus is used as a handle in stretching the adhesions, it is always advisable to first *massée* it thoroughly, which has the effect of rendering it less sensitive. A good practical point inculcated by Brandt is that the pressure should not be applied at the centre of the fundus, which is very sensitive, but at either side, which is much less sensitive. One can easily convince himself of the value of this suggestion. In fact Brandt's teachings are full of such valuable practical points, which bespeak careful and accurate observation and an enormous experience. At the conclusion of the *séance* the abdomen is *massèed* in a direction just the opposite to that at the commencement. Finally, the operator's hand is allowed to rest flat on the patient's abdomen, and a slight trembling movement may be carried out so as to annul any pain the treatment may have caused. Brandt recommends for this purpose, in addition, pressure against the pudendal nerve, carried out by applying the thumb on either side of the anal opening toward the tuber ischii. Before the patient is allowed to change her position on the couch "knee adduction" is performed three or four times. The patient is told to elevate her hips and bring her heels close together so that she rests on her shoulders and feet. The knees are separated wide by the patient, and are brought together by the operator by placing a hand on each knee at its outer side, while the patient exercises moderate and steady resistance. The operator then draws the knees apart, also under the patient's resistance. By a little reflection it will be seen that in both movements it is the abductors that are brought into action. This has a derivative effect on the contents of the pelves by drawing the blood away from them, and thus lessening any congestion that may have been caused by the treatment. When we have succeeded in distending the bands and cords, and have broken up the flaky adhesions to such an extent that the uterus is fairly movable, we begin with our attempts at replacement. Brandt employs for this purpose six different manipulations which may be characterized as follows: 1, Leverage; 2, wedging; 3, hooking; 4, reduction pressure; 5, "reduction with one finger;" 6, ventro-vagino-rectal reduction.

1. Leverage can be used only when the uterus is small and rigid, so that when pressure is made against the cervix backward, the fundus is thrown forward and can be seized with the external hand through the abdominal wall, and brought into the normal position.

2. Wedging is resorted to when the uterus lies flat against the pelvis and cannot be replaced by leverage. It is performed by pressing gently the fingers of the right hand through the abdominal walls to the upper border of the fundus, and letting them lie in wait there until the moment the pressure of the vaginal finger succeeds in displacing the uterus slightly forward, then by a quick movement they are wedged in, so to speak, behind the fundus and pull it forward in the usual bimanual manner.

3. Hooking is performed when the uterus is very soft and flexible, so that the first and second cannot succeed. The effort is made to get behind the fundus with the vaginal finger along either angle of the body, and to tilt the fundus forward; the fingers of the external hand are then hooked behind the right tubal angle, and in this way the uterus is drawn forward.

4. Reduction pressure is resorted to when the cervix is fixed anteriorly and the uterus lies low down in Douglas's cul-de-sac. It is performed as follows: The vaginal finger is placed against the fundus and presses it forward, and the external hand is placed just above the symphysis and deep pressure is made backward toward the sacrum. After a time the vaginal finger is carried anteriorly to the cervix, preferably to the middle of the vaginal portion. Now both the internal and external fingers are simultaneously pushing against the cervix toward the sacrum. This usually succeeds in flexing the uterus somewhat forward. The vaginal finger is still held in the same position, pushing the cervix backward, while the external fingers are carried gently along the sides of the uterus to the upper border of the fundus, behind which they are made to insinuate themselves, and the fundus then is carried forward toward the symphysis.

5. Reduction with one finger is more an evidence of Brandt's dexterity than an essential of his technique. He carries the fundus as high as possible with the index-finger in the vagina, and then by a clever movement he twists the lower part of the finger around to the anterior surface of the cervix, still supporting the fundus with the point of his finger. He now withdraws the finger slightly and applies its point in front of the vaginal portion, which he pushes as far upward and backward as possible, thus throwing the fundus in the forward position.

6. Ventro-vagino-rectal reduction is resorted to when the fundus is too high to be within the reach of the finger in the vagina. To execute this manipulation the index-finger is passed high up in the rectum by pushing up the perineum as far as possible, the thumb is then inserted into the vagina, serving the double purpose of pushing the cervix backward, and of permitting a higher introduction of the index-finger in the rectum. The index-finger tries to dislocate the uterus and presses the fundus forward, while the external hand endeavors to seize it and bring it forward in the usual manner.

In these various manipulations for replacement it does not infrequently happen that they fail because the fundus is pushed up against the promontory. This contingency may sometimes be avoided by pushing the fundus to one or either side, or by a skilful use of the external hand in pressing the pelvic contents downward and forward. If these manœuvres fail, as they will sometimes, an attempt should be made with the patient in the knee-elbow or the Sims position, or with the patient lying on her face. Should failure attend all these, the uterus may be drawn down gently to near the entrance of the vagina by seizing hold of the cervix with a volsellum. But this unfortunately necessitates the aid of an assistant. I have succeeded, however, in carrying this out in one case without any assistance. In the absence of an assistant, however, the corrugated tenaculum described by Dr. Howard Kelly in the *American Journal of Obstetrics and Diseases of Women and Children* for February, 1891, might be of service. The traction, if done carefully, can only be of benefit in that the restricting bands and ligaments will be subjected to stretching which would be of difficult execution with the finger owing to their very high situation.

I am well aware that most of these manipulations for the replacement of a retro-placed uterus have been employed by gynecologists for some time past, and I had used some of them myself long before I had heard of Brandt's work. But to Brandt is due the credit of elaborating and classifying them, and of showing the much greater value and safety of making repeated daily attempts, over the usual method of trying to accomplish all at one sitting. This may appear but a simple matter. But it is just to such simple matters as this that the science of gynecology owes its greatest advancement. Once the uterus has been freed from its adhesions so that it can be replaced to its normal position, Brandt begins his "lifting" process. The "liftings" innervate the uterine attachments, and stimulate them to contraction so that they will retain the replaced uterus permanently. Time and space will not allow me to describe this somewhat complicated manœuvre which the beginner finds so extremely difficult to perform. It certainly cannot be learned from descriptions, even with the aid of drawings. Even under the guidance of the master himself the tyro will fail several times before he meets with success once. As it is a procedure capable of making matters only worse unless properly carried out, I would advise those who cannot receive practical instruction to leave it entirely alone. Of course in adopting a new method, the proper and scientific course is to follow the originator precisely in every detail. When this has been done, and the pupil is master of the situation, and is desirous of simplifying the method he may do so by leaving out a manipulation now and then, and observing if the results remain the same. Another course, less commendable, is as Ziegenspeek has stated, to begin with the smallest number of the manipulations, and keep adding one detail after another until the same results are obtained as when every detail is followed. To follow this course requires great honesty and deeper powers of observation than I think most of us possess. In this country, through force of circumstances, but very few would be able to follow the first course. A compromise, however, may be suggested, that all details be followed closely that do not call for a trained assistant. But in following this course the fact must not be lost sight of, that only a part of the method is put into practice, and that if the results are not as good as those obtained by Brandt and some of his pupils, the fault may lie not in the method, but in the manner in which it is employed. It would be foolishly rash to assert that Brandt's method will be successful in all cases of retro-displacements with adhesions, for conditions are occasionally met with in which the uterus for the whole length of its posterior surface is, so to speak, firmly cemented to the anterior rectal wall. But these are cases in which neither Schultze's method in deep narcosis, nor a laparotomy and a direct attempt to separate the adhesions, would be of any avail. I have already referred elsewhere[1] to a case in which Professor Schultze had failed after three different attempts under deep narcosis, and in which Brandt succeeded with his treatment in six weeks.

The time consumed in the treatment of these conditions by Brandt's method naturally varies with each case and is dependent upon a number of circumstances. In the less severe cases the progress made from day to day is quite marked and encouraging, and a few weeks usually brings about the desired end. In others again, the greatest patience and perseverance on part of both physician and patient are necessary, and months may elapse before any noticeable effect is produced. My own observations have extended over too short a period to enable me to speak definitely as to the permanency of the results obtained. I am trying to follow up my cases conscientiously, and will report later to this Section on this point. I should be pleased to have the results of my treatment controlled by some members of this Section, who would examine the cases before being put under treatment, and after the treatment had been discontinued, say for a period of two months. In this way the profession would be afforded a report free from bias or prejudice, showing what the method is capable of accomplishing. Before concluding I cannot refrain from the temptation of reporting two cases out of a number that I have treated since my return from Stockholm. But I apologize at the same time for presenting them in so incomplete a form. I present them, however, merely for the purpose of showing what Brandt's method may achieve in rather unpromising pathological conditions, and not as indisputable evidence of the permanency of the results of the treatment.

CASE I.—S. H——, aged thirty, married fifteen months, came to Mount Sinai Dispensary January 6th of this year,

[1] New York Medical Journal, January 24, 1891.

and gave the following account of herself: Shortly after marriage began to suffer with dyspareunia for which she consulted a doctor who introduced a pessary which gave her some relief for a time. She then became pregnant and aborted about the fifth month. This she attributed to a fright. While pregnant she had constant pain in the hypogastrium and in both groins. She stayed in bed for six days after the miscarriage, and when beginning to go about she had pain in the back, hypogastrium, and severe sharp pain in both groins. She now began to suffer again from dyspareunia, and her periods now for the first time were attended with excruciating pain. All these symptoms persisted until her visit to the dispensary. She was treated at the dispensary for a fortnight with galvanism applied to the vaginal vault and abdomen, with but little relief to her symptoms.

On January 20th, after a very careful examination, the following note was taken: Uterus retroflexed, with the fundus high up in the pelvis, and lies considerably to the right of the median line. Rather firm bands passing from the fundus to the anterior rectal wall, and from the side to the right pelvic wall. Right ovary and tube not detected. Left ovary somewhat enlarged and slightly fixed to the left pelvic wall.

Diagnosis.—Retroflexion, with firm perimetric adhesions. Left oöphoritis. After three daily applications of pelvic massage and stretching, the period set in at the natural time, and was absolutely free from pain. Two days after the cessation of the period, which was on January 28th, she called at the office and stated she had no pain anywhere. The uterus was quite movable, though it still lay in sharp retroflexion. The left ovary seemed smaller, and was freely movable. An effort made to replace the uterus was unsuccessful. On the following day on drawing down the uterus with the volsellum it was easily anteverted. This had to be repeated on the next day, and as the patient, owing to domestic duties, could not continue with the treatment, a well-fitting pessary was introduced. Three days later it was found that the posterior bar of the pessary was in front of the cervix, and was consequently removed and left out. The patient had been free from pain in the meantime. When she called a fortnight later, which was February 8th, the uterus was found in anteversion, and there had been no recurrence of the pain.

Here was a case of backward displacement with firm adhesions and attended with a train of severe symptoms which was cured, as far as we can speak of a cure at present, after seven applications of pelvic massage and systematic stretching. The patient had been treated for weeks before coming to the dispensary with as little result as that of the treatment she received there.

Case II.—L. M——, aged twenty-five, married six years, had one child five years of age. She never had a miscarriage. Began to menstruate at thirteen years, was regular from the first and had no pain. Her only labor was easy; she remained in bed eight days and apparently made a good recovery. Three years ago began to suffer from pain in the right groin. Shortly after had pain in the left groin also. She began now to have in addition severe pain in the back. Her periods grew less and were attended with some pain. The usual pelvic pains were always aggravated during menstruation. She had pain on coition, which sometimes was followed by a slight sanious discharge. Micturition was frequent and slightly painful. She was subject to headaches, her digestion was impaired, and her nervous system began to be unstable.

An examination showed a retroverted uterus with the cervix fixed immediately behind the symphysis, and the fundus low down in Douglas's cul-de-sac, also fixed by firm adhesions and bands and lying considerably to the right of the median line. Right ovary corresponds in size to a large hen's egg, and the right tube much enlarged and tortuous. Left ovary somewhat smaller than the right, and fixed to the pelvic wall. Left tube apparently not larger than normal.

Diagnosis. — Retroversion with fixation. Double oöphoritis. Right salpingitis, whether catarrhal or purulent impossible to say. Daily pelvic massage and systematic stretching began February 12th. On the 18th patient declared herself entirely free from pain. On the 19th after considerable difficulty uterus was replaced, but fell back into retroversion immediately afterward. The enlarged ovaries and swollen tube have undergone decided decrease in size.

Note.—The treatment was continued daily until I took ill on February 27th, and was begun again March 11th. In the interval she had had her period, which was attended with considerable pain during the first day. The pain in the right groin had returned, but was not nearly as severe as before the treatment was begun. Daily treatment with occasional interruptions was followed, and in a few days she was again entirely free from pain. Her next menses set in March 30th, without the slightest pain or discomfort. On April 11th she became completely drenched during a severe rain-storm, and on that night she again had pain in the right groin. A couple applications of massage relieved the pain, but the right ovary, from being half the size it was at the first examination, is now just as much swollen as it was then and is quite tender. The right tube is about half the thickness it was when she first came under my care. The uterus is fairly movable and can be readily anteverted. Ever since coming under treatment she has had no recurrence of the pain in the back. I consider that a laparotomy for the removal of the right appendages is indicated, and have advised it, but the patient will not submit to an operation. The case is instructive in that it shows that with ordinary care massage and stretching may be safely employed even in the presence of very marked disease of the adnexa, and it further shows the benefit to be derived from the treatment in such extensive and firm adhesions of the uterus.

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THE DRAINAGE OF CITIES AND ITS RELATION TO PUBLIC HEALTH.

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The subject of the drainage of cities includes in its more comprehensive sense the kindred subject of sewerage, and the no less important subject of the cleansing of streets and public ways.

All these three points—drainage, sewerage, and street-cleaning—are so important and so closely allied as to form practically but a single head in the great question of public health. The neglect of these in past ages gives us a long list of mournful experiences in the plagues, pestilences, and epidemics that have so often and so frightfully scourged mankind.

If we glance backward along the line of history we find that some of the fairest provinces of the earth have been fearfully afflicted with the ravages of disease, and often whole communities have been swept away or decimated by the invasion of epidemics that owe their existence and spread to the ignorance and disregard of sanitary laws.

Men learn the lessons of sanitary rules slowly, and this is but too often seen in the appearance of loathsome and contagious ills that every now and then stalk among us like a hated spectre.

When men aggregate in large numbers within restricted limits, a condition of things at once arises that makes imperative the observance of certain laws to regulate their well-being, and these laws cannot be disregarded without our paying a fearful penalty of sickness, suffering, and death.

This aggregation of great numbers of individuasl within restricted areas, as in cities and towns, and the maintenance of the public health of these masses of individuals in relation to drainage and sewerage, and the proper con-

dition of cleanliness of its streets and public ways, present a sanitary problem at once complex and difficult.

The waste matters of the human body, and of the bodies of the various domesticated animals domiciled among us, and the large amount of garbage from our cellars and kitchens, make it very important that we should get rid of these waste matters in a way that will not affect the general health. It has always been a matter of the greatest difficulty to determine the best way of getting rid of these waste matters of the body, which pass into the sewers and thence away from the place from which they are discharged. The drainage of cities has been a problem that has enlisted the best talents of engineers and sanitarians. The system of sewerage in large cities is therefore a very important matter, and it has elicited a high degree of engineering skill to devise the best method of constructing these important outlets. No less important is the matter of getting rid of the great amount of garbage which daily accumulates in all large cities and towns. Many of the diseases which afflict the human race have been generated through the decay and putrefaction of these substances which are indiscriminately thrown into the streets and gutters; the sun pouring down upon them and the moisture of the rain has set up the process of decomposition, and this has given rise to disease-germs which enter the human body and excite into activity a multitude of loathsome and painful ills.

In reviewing the history of the world we find that in all ages where a plague or pestilence has arisen the causes of these can be traced to bad drainage and to the decay of garbage and other waste matters which are thrown into the streets. Bad drainage is one of the most fruitful sources of disease. The waste matters which are poured constantly into the sinks and cesspools not being properly carried off, and the places themselves not properly cleansed, have given rise to the process of putrefaction and to a long list of maladies. In tropical cities where the drainage has been imperfect, and in some places where no drainage has existed at all, periodical epidemics have occurred with frightful regularity and with fatal results. The great plague which visited the city of Florence, Italy, in the fourteenth century was caused by the imperfect drainage of that city—in fact drainage was almost unknown, and all of the effete matters of the city were allowed to collect in cesspools or run upon the ground, and under the hot sun gave rise to putrefying gases and disease-germs.

The epidemic of cholera which swept over a large part of Asia and Europe almost annually until recently, was the result in a great measure of imperfect drainage and a gross neglect of sanitary laws. In the superstition of those times they were attributed to visitations of Divine displeasure, and the shrine-cure and the miraculous interposition of saints and others were invoked for their relief, but in spite of these, the disease continued its ravages until a more enlightened age pointed out the cause and remedied the defect.

In the city of Rio Janeiro the yellow fever which almost annually scourged that city was found to have its origin in the imperfect drainage of the city and the gross neglect of sanitary laws relating to sinks and cesspools, and the overflow of these upon the adjacent lands was one of the great causes in the production of that dreaded disease. When finally a scientific system of sewers was constructed and the drainage of the city properly carried out, and a stop put to the practice of throwing all manner of garbage into the streets, the epidemic gradually abated.

The city of Panama underwent a similar experience.

Prior to the year 1863 the city of Acapulco in Mexico was almost annually visited by yellow fever, and so fatal were its ravages that in some years the dead were left for a time unburied. About this time I had occasion to visit that city, and my opinion was asked, with that of other American physicians, of the cause of these annual scourges. A superficial examination revealed the fact that where sewers existed at all, which were comparatively few in number, they emptied their contents into a swamp a short distance back from the city. Where no sewers existed, and this was generally the case in the town, the waste matters from the houses were poured into cesspools, which were contiguous to the wells which were used for drinking-water. These wells were frequently polluted by the contents of the cesspools percolating through the soil, and this, with the imperfect drainage and the practice of throwing garbage into the streets, was the cause of the yearly visitation of yellow fever. It was suggested by myself and others that a sewer be constructed which would carry the waste matters of the city into the Pacific Ocean, and the authorities lost no time in acting upon this suggestion. Since then yellow fever has visited Acapulco but rarely, and then only in a mild form.

The city of New Orleans was almost annually visited by yellow fever before General Butler reconstructed the levees and the drains of the city, and caused the streets to be daily flushed with a supply of pure water.

The city of Memphis affords another striking example of the effects of bad drainage. The case of Memphis is closely analogous to that of Acapulco. The sewers were badly constructed, and poured their contents into a bayou in the rear of the city. The cesspools here also were contiguous to the wells of drinking-water, and here again the contents of the cesspools percolated through the soil and poisoned the waters of the wells. To add to this, the garbage of the houses was thrown indiscriminately into the streets, and these causes acting together gave rise to yellow fever, which was so severe and so fatal in that city for many years. When modern science came in and constructed a proper system of sewers, and the drainage of the city was intelligently and properly carried out, Memphis became rid of her annual scourge.

In some of the newer cities of the West the sanitary engineers have constructed things better. In the city of Denver, which lies at a mean altitude of fifty-two hundred feet above sea level, and is, during the summer months, scorched by severe heat, the maintenance of the public health is kept up by a practice of daily flushing the streets through a system of irrigation furnished by the waters of the South Platte River. From this stream, which heads in the Rocky Mountains near by, a copious supply of water is led through nearly all the streets of the city, and the gutters are kept sweet and clean. From the same source the sewers are daily flushed, and this great sanitary measure is one reason why Denver is regarded as a health-resort. Salt Lake City is likewise preserved in a similar manner. The sewers of this city are comparatively small, but a boundless supply of pure cold water is obtained from the melting snows of the adjacent Wasatch range of mountains, and this flood is poured copiously through every street of the city, and in this way the health of the city is maintained.

In the city of New York the sewers, in a large measure, are ample and well constructed, yet many of them are in a dilapidated condition. This is the fault of the authorities who have this matter in charge. Our city should be the best drained city in the world. Its configuration is such that it can be easily drained into the two great rivers which bathe its shores. In many cases, however, the sewers are sadly out of repair, and their contents are allowed to escape into the surrounding soil, saturating it with their vile contents, and whenever the streets are opened for the purpose of repairs the foul and offensive gases escape into the air. These defects are being gradually remedied, and under the intelligent vigilance of the Board of Health the sewers are being constructed in a more thorough and more permanent manner. The subject of sewer-gas has perhaps been incorrectly stated, and its importance somewhat over-estimated. It is a current belief in the public mind that the gas in the sewers is under a strong pressure, and through any leak in the sewers or waste-pipes this gas is strongly forced backward into the houses. This is not

altogether true. Experiments have been made by the Board of Health and by the authorities of Columbia College to show what amount of pressure of sewer-gas existed in the sewers, and these experiments have demonstrated the fact that this pressure is inconsiderable. Even where the mouths of the sewers have been exposed above the water-mark, and where the wind has blown with considerable force into them, this has not exerted as great an amount of pressure as one would naturally expect to find.

The system of ventilating-pipes in houses leading from the basement to the roof is of great value. No modern house is constructed without a ventilating-pipe, and these carry off the noxious vapors, and discharge them into the air at a considerable height above our roofs, practically placing the danger-line out of our reach. This system of ventilating-pipes and the ventilating-shaft now constructed from closets largely obviate the danger to health which formerly existed.

Closely connected with the drainage of cities, and quite as important from a sanitary point of view, is the cleaning of the streets and public ways. In the city of New York there are about three hundred miles of streets and avenues. A considerable part of these are paved, but many are not. So vast an area of ground in a city like this is a fruitful source of disease unless it is properly and regularly cleaned, and this problem of street-cleaning properly engages our most earnest attention. When it is remembered that these three hundred miles of streets are hourly traversed by the feet of thousands of men and animals, feet that are not always in themselves clean; and when it is remembered that from these thousands of animals there is dropped a vast amount of waste matter, and this waste matter is mixed with the dust and dirt which accumulate in the street, and is ground and pulverized under the feet of these thousands of animals, and under the wheels of thousands of vehicles; and when to all this is added expectorations from thousands of throats, some reeking with tobacco, some foul with disease, such as syphilis and phthisis and many others; and when to this is added the almost tropical rains, and the almost tropical suns of our summer climate, the wonder is that disease is not more rife and more rampant than it is now. If it were not for the mean equable climate and the clear skies and the pure air in which we live this great extent of unclean streets would breed a pestilence among us. To all this can be added the exhalations which arise from the sewer manholes everywhere in the city, which discharge their noxious gases into the air under our very nostrils. When all this is considered, the problem of clean streets becomes one which interests everybody among us. This problem has been variously grasped and studied, with a view of ascertaining the best means of accomplishing its purpose. At a recent meeting of the Ladies' Health Protective Association of this city a bill was read which had been prepared at its suggestion by a Mr. J. A. Ambrose. This bill was drawn with the idea of presenting it to our Legislature at Albany, and asking that body to enact a law which should place it at once into effect. Its scope, briefly stated, was to divide the city into districts of convenient size, beginning at the Battery and ending in the Twenty-fourth Ward. These districts were to be respectively numbered from one upward and each to be placed under a foreman. Under him were to be placed a number of men and a number of sweeping-machines, with sufficient carts, horses, shovels, hoes, and brooms to keep his district in perfect order. It was suggested that the machine should go over every street under his charge once each day, and following the machine were to be a sufficient number of men with hand-brooms to sweep the matter into heaps, and these were to be taken up by carts immediately after. This was to be done each morning. During the day the men who had a specified part of the street to take care of were to sweep it with hand-brooms, and place the sweepings into small vessels or tubs mounted upon wheels. In this way all droppings were to be immediately gathered up and not allowed to remain in the street. The workingmen were to be selected for their respectability, and were required to speak the English language, to have some badge or cap to distinguish them from others, to be permanently hired by the year, and to be discharged only for cause. Their pay was to be such as would secure to the city proper talent for this work. Each district foreman was to be under the charge of a superintendent, and the whole to be under the supervision of a commissioner of street-cleaning. It was thought that if such a bill could become a law, and the process of street-cleaning carried out practically in this way, that each street would be cleaned once each day thoroughly, and the more important and more frequented streets and avenues be cleaned several times a day. Other provisions of the bill were that no garbage should be thrown into the streets, that ashes and waste-paper and all matters of that kind should be carefully collected in barrels and removed once each morning by a proper system of collection in carts. By such a system the streets and avenues of New York could be kept in a clean and healthful condition, and many diseases largely abated and held in check.

Another matter of great importance, which bears very strongly upon the problem of street-cleaning, is the maintenance of our pavements in a proper condition. If a pavement is allowed to become broken and uneven, no amount of sweeping could keep it clean. Waste matters will accumulate in these hollows and depressions, and under the influence of sun and rain and the putrefaction of organic matters contained in them, and the evils resulting from the decomposition of filth and decayed matters, disease will follow inevitably; therefore it is a matter of the highest importance that in a great city like New York the pavements should be kept in a smooth and excellent condition. In this way the streets can be cleaned with less difficulty. It is also important that gas-pipes and steam-pipes, which are laid under so many of our streets, should be constructed of such material as to prevent the leakage of these gases into the surrounding soil, thereby contaminating it. As they are constructed at the present time the leakage is considerable, and when streets are disturbed and torn up for the purpose of repairing these pipes, the soil gives out a most intolerable odor, which is not only extremely offensive but very deleterious to health. This is an evil of considerable magnitude in this city, and should receive the earnest attention of the authorities to abate it as far as possible. In considering the drainage and the sewerage of a great city like New York, it is only necessary to say that while drainage deals with the problem of removing surface-water from the streets and whatever moisture may exist in the soil emanating from springs, brooks, and swamps—and the problem of sewerage deals with the carrying off of these waters, and of the waste matters from houses and other buildings, through proper conduits, together with all excrementitious matters—the two subjects of drainage and sewerage may be practically regarded as one. The topography of a city or town has an important bearing upon its system of sewers and drains. In New York city the topography is of the most favorable character. The city is flanked on either side by a broad river with a rapid tide, and the city itself is practically a water-shed rising at the sides from sea-level and reaching a central summit of from five feet to one hundred and fifty feet. With such a configuration and natural slope of the land, there is no reason why New York should not be the best-drained and the best-sewered city in the world. An ideal system of sewerage and drainage and street-cleaning which is possible and practicable in the city of New York may be briefly stated as follows:

1st. To remove all abattoirs as far as possible from the city limits, and to provide for the proper care of the refuse of such places, and to keep them in such order that no unpleasant odors can be detected anywhere about them.

2d. The removal of cattle-pens and cattle-yards and sheds beyond the city limits, in order that the noxious and unwholesome emanations from these places may cease. Such places, even under the most favorable circumstances, usually give rise to noisome smells, which are deleterious to public health.

3d. The proper disposal of all stable refuse, and its immediate removal from the pens, cellars, and other places where it is kept.

4th. The sewers should be of sufficient size and constructed in the best possible manner of brick, lined with impervious cement, and of waterproof stone-pipe, or of iron pipes, or of all three where needed, and so laid as to have their discharging mouths pass into the rivers on either side of the city below low-water mark. Into these main sewers should pass smaller sewers, and into these again the waste-pipes from the houses and other buildings provided with properly constructed traps. In every house and building where water is used and waste matters are to be sent away the pipe connecting with the sewer should be of wrought-iron of proper size. This pipe should extend up through the entire building to the roof, and discharge its vapors at a sufficient height above the houses. Into this pipe should lead all pipes from closets, wash-bowls, sinks, and tubs, and each should be provided with a well-constructed trap. All such pipes when used for the carrying off of waste matters should be sufficiently flushed with water and kept so clean that no odors can possibly be detected in them. Where the water is abundant, as in our Croton system, enough can be used to keep clean such pipes without undue waste.

5th. All closets should be constructed with a ventilating shaft leading directly to the roof, surmounted with a properly constructed skylight with ventilating apertures.

6th. All surface-waters of the streets should be carried off by properly constructed gutters and sewer-openings, and drained and discharged directly into the sewers, and allowed in no instance to accumulate anywhere. If springs, or brooks, or swamps formerly existed in any locality, they should be properly drained, and the drainage carried to the nearest sewer.

7th. Every paved street in the city should be swept by sweeping-machines once each day and the sweepings immediately removed in carts. On streets and avenues where the traffic is great men should be stationed with hand-brooms and with small tubs on wheels, or hand-carts, and remove all droppings and refuse matter several times each day.

8th. No ashes, garbage, waste-papers, or other matters should be thrown into the streets or gutters. Ashes and garbage should be placed in suitable receptacles, preferably of metal, which every morning should be placed in the front area, where they can be emptied at an early hour into carts provided for that purpose.

9th. Pavements should be kept smooth and even, so that no sweepings or refuse matter can accumulate in holes or uneven places, and if such depressions should exist they should be swept by hand immediately after the sweeping machine passes over them.

10th. The construction of water-pipes, gas-pipes, steam-pipes, and other pipes, which are laid so extensively under our streets, should be constructed of such material, and with such excellent workmanship, that their contents should not escape into the surrounding soil, and thus contaminate it and make it unwholesome when disturbed.

With such a system of drains and sewers, and the daily sweeping of the streets, and of the daily removal of ashes and garbage and other waste matters, and the constant exercise and due care in keeping waste-pipes, sinks, and closets sweet and clean, and the ventilating of houses by fresh air uncontaminated by clouds of dust which arise from unswept streets—with such precautions as these, the health of this and other great cities can be properly maintained. Such a condition of things can only be brought about by an honest administration of a city government, and the co-operation and support of every citizen within its limits. When this is done intelligently and by all the aids known to modern sanitary science, disease will be largely abated, and the public health maintained at its proper standard. Probably there is no spot in the world so admirably adapted for a great commercial centre as the island upon which this city is built. Surrounded as it is on all sides by wide and deep channels, having a regular and well-defined water-shed, and combined with every variety of surface, blessed by a most salubrious climate, there is no reason why it should not be the most healthful residence in the world. Nevertheless it has been in times past scourged by the outbreak and spread of such dangerous and loathsome diseases as small-pox, diphtheria, and the whole class of low-grade fevers. This has been due to an improper construction of her sewers and drains, and a disregard of even ordinary cleanliness of her public streets. Science has now come to our rescue, and by her enlightened and beneficent aid, there is no reason why the city of New York should not be the most beautiful and delightful, as well as the most wholesome, place of residence in the entire expanse of this great continent, stretching as it does through the most favored climatic zones, from Maine on the north to the rich sub-tropical verdure of the Rio Grande on the south.

747 Madison Avenue, May 8, 1891.

A CASE RELATING TO THE INFLUENCE OF MATERNAL IMPRESSIONS UPON THE FŒTUS.

By R. OSGOOD MASON, M.D.,

NEW YORK.

The Record for May 18, 1889, contained a communication from me intended to show that physicians and others, who believe that strong impressions made upon the mother during pregnancy may have an influence upon the fœtus *in utero*, even to the extent of causing marked physical changes, need not necessarily be believers in *witch broth* and such like supernatural things, but may be well-informed, thoughtful, and even scientific people. While preparing that communication a newspaper item fell under my observation referring to a family of albino children in Harrisburg, Pa., presenting some interesting features bearing upon the subject in hand, and having the authority of the attending physician, Dr. M. K. Bowers, of the same city. I at once wrote to the doctor in regard to the matter; he kindly replied, and I found in him a most interested and intelligent observer and correspondent.

The following facts were elicited which, with the doctor's permission, I have prepared for publication.

Two years ago, when our correspondence commenced, the family referred to consisted of father, mother, and three albino children. The father of the children is a very dark-skinned man with black eyes and jet-black hair; the mother is not quite so dark, but has dark hair and dark blue eyes. The grandparents all have dark complexions and dark hair, and the family, as far back as its history can be traced, is entirely free from freaks or abnormalities of any kind.

Two years previous to the birth of the first albino the mother gave birth to a perfectly normal, healthy child having dark eyes and very black hair. This child died just previous to her next pregnancy.

With the second pregnancy everything went on as usual until near the beginning of the second month, when one day she unexpectedly received a small box by express from a friend in Philadelphia. She was quite ignorant of the contents of the box, which, however, was at once opened in her presence and was found to contain a large, handsome, perfect albino rat. As soon as she saw it she became nervous and declared that the sudden impression made upon her would show itself upon her child.

The rat, however, was tame, and was at once domiciled in the house. It became a general pet in the family, the pregnant woman herself also becoming very fond of it, often playing with it and holding it in her hands. A short time before her confinement the rat was accidentally killed, an incident which caused her considerable annoyance and sorrow.

A few days later the doctor was called to the confinement, which resulted in the birth of a fine boy baby, but a perfect albino. The mother, when informed of the fact, did not seem at all surprised, but said at once, "I knew it, I told you so. It was the rat—oh, that rat!" However the boy grew beautifully and became a great pet both at home and abroad, "the mother herself becoming *wonderfully* attached to him."

The mother soon became pregnant again, and informing the doctor of the fact, she remarked that she had made up her mind to have a pair of albinos. Her expectations were realized, and in due time she was delivered of a fine girl baby, also a perfect albino.

Upon the occurrence of her next pregnancy she remarked that this ought to be a black-haired baby, but she feared she would be disappointed. Her fears proved well-founded, and her pregnancy resulted in another perfect albino girl.

So, dating from the white rat episode, we have three perfect albino children, concerning whom the doctor writes: "The children are remarkable for their health, never having been sick, general activity, and unusual intelligence. They are much better specimens of the albino type than any found in museums or circus shows. They have snow-white hair, eyebrows, and lashes, the hair being remarkably fine and soft. The eyes are extremely sensitive to light, and when exposed to the sunlight or a bright artificial light they keep them closed; but in a subdued light or on a cloudy day, they are wide-awake and have very acute vision, being able to see the smallest objects, even when the room is quite dark. The sclerotic is of a dull white, a distinct bright pink (almost red) line binding its juncture with the cornea. The pupil is of a slightly darker shade of pink. The eyes are constantly in motion, never resting more than a moment upon any one object. The two older children are extremely bright and active, and the new-comer, now four days old, promises to rival her distinguished brother and sister. She is an unusually fine baby."

Such was the state of affairs in the albino family in May, two years ago.

During the second week of April last I received another letter from Dr. Bowers, from which I gather the following interesting facts. The albino children were all living and in excellent health; furthermore, on Sunday morning, April 5th, the doctor was again called to attend the mother in her confinement, when she gave birth to a perfect and vigorous twelve-pound boy, with black hair and dark-blue eyes, as utterly unlike the albinos as it was possible to imagine. The three former children are, if possible, more pronounced albinos than they were two years ago, and the family, as at present constituted, presents a most singular and interesting group.

The doctor then goes on to say: "This last dark-haired, normal child appears to be a striking example of will-power exerted by the mother. She has been under my care continually, and I know that it has been her one chief desire to have such a child. She was exceedingly anxious to become pregnant, and when she was convinced that such was the case she sent for me, and during our conversation made this remark: 'Now, doctor, keep your eye on me, for I am sure it is all right, and this time it will be a black-head!' She at once sent her albino children away to her mother's house, to remain during her pregnancy, and her husband tells me that her one constant song and desire was for the dark-haired baby. She talked of it constantly, she even talked of it in her sleep." When called to attend her she at once said to the doctor, "Now I am ready for my dark baby."

The doctor remarked that the desire on the part of his patient for a dark-haired child was not merely the whim of an ignorant or illiterate person; on the contrary, she was well educated, generally intelligent, and an unusually brilliant woman. Her parents were educated people—her father at present holding a prominent position in one of the offices of the State Government—and that her desire was accompanied by a very strong faith and intelligent effort for its fulfilment.

The case is simply one, and a strong one, bearing on the question of the possible effect of maternal impressions upon the fœtus *in utero*.

The case sums up as follows: Parents both dark—one *very* dark, to whom is born, as might naturally be expected, a dark-complexioned child.

Early in the second pregnancy of the mother she is surprised and made nervous by the sudden and unexpected appearance in her family of a large, handsome, albino rat. She affirms that it will have an effect upon her unborn child.

Albino number one is born. She becomes exceedingly fond of it; its peculiar face is ever before her. She is not averse to another similar child, but desires it.

Albino number two is born. The next pregnancy she hopes may terminate by the birth of a dark-haired child; but she is surrounded by the same influences, and the same models are before her. She fears disappointment, and she experiences it.

A third albino child is born. Upon the occurrence of her next pregnancy she is thoroughly aroused, and is influenced by a peculiarly strong wish for a dark haired child. She affirms that it will be so. She exerts her will to promote her wish. She removes from her sight the models which she does not wish should influence her. She directs her mind constantly to the ideal of a dark-haired child. She dreams of her dark-haired child and speaks of it in her sleep—an important fact as indicating unusual susceptibility to impressions. She feels that she will not be disappointed, and she is not. A perfect dark-haired child is born.

The "coincidence" man is abroad, but he has a sallow and antiquated look, and along with his friend, the "unconscious muscular action" man, seems to belong more properly to the early part of the century. Experimental psychology is bringing to light many important facts showing mind producing physical effects beyond the limit of actual nerve supply. Why not in cases like that above cited? I think we have occasion to thank Dr. Bowers for his interesting case in point.

How to Keep Needles from Rusting.—Dr. R. H. M. Dawbarn writes to the New York *Medical Journal* regarding the above subject: "For the past year I have been pleased with the results of a new plan—new to me, that is, though very probably not to others. This is simply to keep my needles in alcohol. For extreme safety against rust I use absolute alcohol; but the commercial article would probably be efficient. At least, some needles that I have kept in common alcohol for a month as an experiment are as bright as ever. Upon buying the needles I immerse them in benzine to remove grease. Then, after running them through a towel, I plunge the point (a cutting-edge Hagedorn) into a bit of cork the size of a pea—to avoid dulling from jolting—and finally, with their corks, they are put and kept in a wide-mouthed, glass-stoppered bottle filled with absolute alcohol. After use, I sew through a thick, wet, soapy towel repeatedly, cleanse the eye with a thread, immerse in benzine, and finally replace in the alcohol. This last is certainly an efficient disinfectant, besides being an excellent protector against rust. By the bye, I long ago gave up using (save in bowel work) any other than Hagedorn self-threading needles, which are a decided comfort, and, when properly made, do not cut the thread."

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE DETECTION OF ABSCESS.

THE diagnosis of an abscess, especially of one near the surface is ordinarily considered so simple a matter that many text-books lay down scarcely any rules for the guidance of the surgeon. It is usually simple, yet every now and then we meet with cases in which it is of the utmost importance to know whether pus be present or no, and do what we can we cannot be sure. Even an exploratory puncture sometimes fails to give us the desired information, or rather misleads us by giving us reason to believe that pus is not present when it is. In a chapter with this heading, in his excellent "Studies from Old Case Books," Sir James Paget refers to two or three points of considerable importance in the diagnosis of this condition, which are sometimes overlooked or forgotten by the surgeon, but which, if remembered, might save him from an occasional embarrassing blunder. Among these is the condition called by the author "central softening, such as gives a feeling of softness or easy yielding to pressure in some small portion of a swelling, or of any part of which the rest is firmer or more tense than is natural." This central softening is to be detected by drawing the finger slowly and with even pressure over the suspected part, and when it reaches the point, if there be any, where pus has begun to form a slight yielding will be felt. This soft spot is sometimes of very small area, but its presence is diagnostic and is enough, in the words of the writer, "to justify puncture, incision, scraping, or any other operation that in each case may be deemed best." This sign is especially valuable in suppurating lymph-nodes, [yet there are here at least two sources of error which are to be avoided in judging of the evidence furnished by the finger. The first of these is in the case of a cluster of inflamed lymph-nodes, in which the spaces between the indurated glands may simulate the central softening. The other is in the case of acute cervical lymphadenoma in which the rapid softening of the tumor imitates abscess formation, a condition which, the author confesses, once so far deceived him as to lead him to puncture the swelling in the expectation of letting out pus. This diagnostic point is seldom mentioned in works on surgical diagnosis, and is usually learned only by practice, sometimes, we doubt not, never learned, but it is a most practical one. It is of special utility in cases of phlegmon seated near the surface yet not exactly superficial, which causes perhaps no tumefaction but only a little redness and some tenderness. Sir James Page mentions several cases of this sort which he found recorded in his note-books, in which there was apparently a superficial phlegmon. Careful search with the finger-tip revealed a spot of central softening, not raised or pouting, which, on incision, proved to be the beginning of a fistulous track, several inches in length, passing down to a deeply seated abscess. The author touches on many other interesting points in this chapter, which we are obliged to pass over, but which are well worthy of consideration and of storing in the memory for future need.

THE EXECUTIONS BY ELECTRICITY.

THE recent executions by electricity at Sing Sing are reported to have been successful, and to have fulfilled the anxious expectations of the advocates of the new law. It is with a feeling of great relief that one hears that success has this time offset the horrors enacted last year at Auburn, and that science, which heretofore has so nobly lent its best efforts to saving and prolonging life, has at last succeeded in showing its power to kill effectively, quickly, and almost pleasantly. The experience with Kemmler resulted in extra precautions regarding power and duration of currents, and, as far as the scientific witnesses are allowed to say, death in each instance was without a struggle or a mishap. It is also reported that the voltage averaged 1,600, and no chances were taken upon a single stroke. There was a grim humanity about the proceeding of repeating the shocks in quick succession, which relieved the minds and consciences of those who guaranteed the criminals against unnecessary suffering. The electrodes were well protected, and it is asserted that no burnt sacrifices resulted.

No official report has yet been issued regarding the details of the killing, and there is nothing beyond the mere results in death which have at present any scientific interest. The extra precautions taken to prevent the expression of independent personal views will necessarily detract from the value of the verdict when finally rendered. The forced secrecy of the proceedings will strike every fair-minded person with a surprise and suspicion which it will be exceedingly difficult to offset by any carefully-worded official document. It can scarcely be believed that a party of scientific gentlemen could submit to be gagged by a prison official, and be prevented from expressing any opinion regarding scientific phenomena of which they were the selected and skilled witnesses. They are thus placed in the humiliating position of a jury having a nominal power without a voice, and presumably helpless in combating foregone conclusions. But, if we must have capital punishment, what advantage have we gained by electricity over hanging? We have seen that it may fail horribly unless extraordinary precautions are taken. It has been claimed by those who appear to know that the torture of Kemmler was grossly exaggerated. We can testify to the contrary, and assert that no adjectives are strong enough to do justice to the dreadful scene. The most that we can hope is that history may never repeat itself in that direction.

Execution by electricity renders necessary a complication of machinery, the utmost skill in its adjustment, and greatest care in its management, and always entails the

employment of scientific experts—all to satisfy the mere whim of some world-betterers who believe that death is thus rendered easier and quicker than by other means. It is yet to be proven that it has any real advantage over ordinary hanging. Those who have compared the methods are willing to affirm that hanging is rarely attended with much real suffering, that the moment the noose is tightened sensation is abolished, and that death is, for all practical purposes, sure and speedy. The rope has the additional great advantage that when used in the ordinary way it seldom misses its aim, is easily worked, and within the reach of the most primitive community.

IMPROVEMENTS IN THE CORONER SYSTEM.

THE recent refusal of the Comptroller to pay our county coroners their salary until they had rendered an account of their fees again calls attention to the deficiencies in our present coroner system. We feel sure that it is only a matter of time when public sentiment will be aroused on this subject sufficiently to demand a reform.

It is perfectly understood by all who have conscientiously examined the matter that our present methods are cumbersome, expensive, and inefficient. It is quite as well understood that a change is prevented largely through the fact that there is lots of "politics" in the present state of affairs.

Dr. H. O. Marcy, who has recently reviewed the existing coroner laws of the United States has reached the conclusion that the following changes and reforms are needed:

First. To abolish the office of coroner.

Second. To dispense with jury service.

Third. To separate the medical from the legal duties in all cases involving the examination into the causes of death where crime is suspected.

Fourth. To entrust the medical examination only to competent medical officers properly trained in their work.

Fifth. To make the number of these medical officers as small as consistent with the proper discharge of their duties.

Sixth. To consign all questions of law only to properly qualified legal magistrates.

Seventh. To remove the appointment of these officers entirely from the question of political consideration, and to be based only upon their possession of the requisite and proper qualifications.

Massachusetts alone has already carried out successfully most of these suggestions.

THE PAN-AMERICAN MEDICAL CONGRESS.

THE project of holding a Pan-American Medical Congress at Chicago in 1893, during the World's Fair, is meeting with various criticisms, and does not yet seem to receive a very hearty response. One objection urged is that it is the year of the International Medical Congress to be held in Rome. Another objection is that while geographically and politically the New World has certain common ties, yet we are practically very widely divided by differences in race, language, and social development. While all this is true enough, it seems to us that the facts mentioned furnish a reason for making an effort to secure greater unity. The southern republics have many ancient schools where medicine is well taught and there is no doubt that the bringing together of medical men from many remote districts of the New World would be beneficial in various ways. We should probably learn a good deal regarding the racial and climatological variations of disease, and also many useful things regarding the materia medica and therapeutics of these regions. Furthermore, it will be a little change, and a somewhat refreshing one, to hear from Chili, Brazil, and Panama instead of from the German laboratories. We trust, therefore, that the Pan-American Medical Congress will be well supported by the physicians of this country.

THE MEDICO-LEGAL ASPECT OF THE JACK-THE-RIPPER CASE.

MUCH interest has been excited during the past week over the trial of an alleged "Jack-the-Ripper." The circumstances of the crime have been made very widely known. A woman of the lowest class was found one morning murdered and mutilated in an East Side resort. The person with whom she slept that night had disappeared, but the police apparently feeling it a matter of pride to capture some one, secured a half-witted Algerian who had slept in a room in the same house on the same night. In the course of time a very pretty web of circumstantial evidence was woven about him. The most important of these circumstances was the fact that stains of blood were found on the Algerian's clothes, on the floor or door between the rooms, and of course on the bed or clothes of the murdered woman. It was asserted by the medical experts that these stains all were mingled with matter which came from the small intestine, and that this chylous material came from a meal that was in the same stage of digestion. This identity of the different blood and fecal stains, so far as we can make out from the reports, was based on the fact that tyrosin, and perhaps other products of pancreatic digestion, were found in them all, as well as in the scrapings from the prisoner's nails. Tyrosin is a substance which crystallizes usually in the shape of fine needles grouped as radiated stars. In this respect it resembles somewhat hypoxanthin. It reacts to certain tests; but other bodies, such as sarkin, react in a similar way. Tyrosin is found in the urine in certain diseases. Altogether it would seem a little hazardous to convict a man on the microscopically established identity of minute collections of blood and intestinal matter. But the lawyers for the prosecution were skilful and the police had collected a voluminous mass of minor evidence, mostly from criminals. The result was a conviction of murder in the second degree. The medico-legal points raised were very interesting, and we do not doubt that the evidence was given most conscientiously. It is to be hoped, however, that it will be submitted some time to the judgment of the profession. At present there seems to be a feeling that the accused was made a scape-goat for the reputation of the Police Department.

The Prevention of Phthisis.—A French writer observes that the prophylaxis of tuberculosis may be summed up in five words: "Keep water in the spittoon."

News of the Week.

Medical College Commencements.—Harvard Medical School, on June 25th, graduated a class of 63; Yale Medical Department graduated a class of 15 on June 23d; Maine Medical School, on June 24th, graduated a class of 28.

Psychical Research in France.—The French have joined in the investigation of ghosts, telepathy, haunted houses, etc., and have begun the publication of a journal called *Annales des Sciences Psychiques* in which to record their work. The journal is edited by M. Dariex, who is assisted by M. Richet and other men eminent in science. We trust that their work will be fruitful.

Under the Title "Somewhat Uncanny," we published in our news column a statement to the effect that Dr. Rachel Tenny conducted a post-mortem on the body of her deceased daughter. The statement was credited to the daily papers, and was an Association despatch. Dr. Eliza Mitchell, of Kansas City, writes us that the daughter was in fact only a stepdaughter, and that Dr. Tenny did not conduct the autopsy, and was only present part of the time. We take pleasure in making the correction. Dr. Mitchell writes: "I would further add that the patient was the victim of Christian Science, having been a sufferer for two years, and during that time sought to convince herself that she was sound in body. When past hope she became convinced of her folly, and sought help, desiring to live that she might, in their own meetings, expose the fallacies which cost her her life."

The Fourteenth Italian Medical Congress will be held at Siena, August 16, 17, and 18, 1891.

State Board of Health of Kentucky.—At a recent meeting of the State Board of Health of Kentucky, held at Louisville, it was "*Resolved*, That the Secretary be instructed to place upon the list of medical colleges, the diplomas of which are to be certified to and indorsed for registration under the laws of this State, only such colleges as shall, after the session of 1891–2, exact of matriculates and graduates a minimum of requirements not lower than that required by the American Medical College Association."

The Inter-Continental American Medical Congress.—The committee appointed by the American Medical Association to effect a permanent organization of the Inter-Continental American Medical Congress, met at "The Arlington," Washington, May 7, 1891, and elected the following officers: Drs. Charles A. L. Reed, Cincinnati, O., *Chairman;* J. W. Carhart, Lampasas, Tex., *Secretary;* I. N. Love, St. Louis, Mo., *Treasurer*. On motion, the officers were appointed a special committee to draft a constitution, and report the same at the adjourned meeting of the General Committee, to be held at St. Louis, Mo., October 14, 1891, when the time and place of meeting of the Congress will be decided and permanent officers be elected.

A Curious Comment on the Accuracy of Vital Statistics.—The New York City Board of Health notified physicians that there was a neglect in reporting births. The result of the notice was an increase in births in two succeeding weeks of from 697 to 1,288.

More City Hospitals.—The Health Board have approved a recommendation to build a new reception hospital at East 138th Street and to enlarge the Willard Parker Hospital and the East Sixteenth Street reception hospital.

The American Society of Microscopists will hold its fourteenth annual meeting at Washington, D. C., August 10 to 14, 1891.

A Five Years' Medical Course Required in Canada.—The Medical Council of the College of Physicians and Surgeons of Ontario recently passed the following resolution: "On and after July 1, 1892, every student must spend a period of five years in actual professional studies, except as hereinafter provided, and the prescribed period of studies shall include four winter sessions of six months each and one summer session of ten weeks; the fifth year shall be devoted to clinical work, six months of which may be spent with a registered practitioner in Ontario and six months at one or more public hospitals, dispensaries, or laboratories, Canadian, British, or foreign, attended after being registered as a medical student in the register of the College of Physicians and Surgeons of Ontario; but any change in the curriculum of studies fixed by the Council shall not come into effect until one year after such change is made."

The Trouble at the German Hospital.—The medical board of this hospital announce that: After a careful investigation into the difficulties between the superintendent of the German Hospital and the gentlemen composing the house staff, which difficulties resulted in the discharge of the superintendent and the resignation of the entire house staff, the medical board of the German Hospital does hereby declare that

1. Such sudden resignation of the entire staff was justified by the extreme and continued provocation on the part of the superintendent.

2. That the members of the house staff, at the request of the medical board, willingly continued to discharge their duties until relieved by the appointment of their successors.

3. The members of the house staff—viz., Dr. Fred. E. Sondern, Dr. Alfons Müller, Dr. Henry A. Kurth, Dr. William Ch. Gueth, Dr. Edw. Staehlin, and Dr. Ernest C. Schultze—have at all times during their term of service attended to their professional duties to the entire satisfaction of the visiting physicians and of the medical board.

[Signed.] HERMANN G. KLOTZ, M.D.,
ERNST SCHOTTKY, M.D.,
AUGUSTUS CAILLÉ, M.D.,
Medical Board.

Dr. Charles H. Shears who died June 9th, at Sharon, Conn., was born in Washington, Dutchess County, N. Y., and had practised in Amenia, N. Y., and Sharon, Conn., since 1859. He studied medicine in the New York Medical College and in the Medical Department of the University of Vermont. His consulting practice was large, and he enjoyed in a marked degree the confidence and respect of his professional brethren. He was especially well known for his kindness to the poor, and there were many affecting scenes at his funeral.

A Law for the Prevention of Syphilis.—The Massachusetts Legislature has enacted a law which provides that all inmates of charitable or penal institutions who are found to be suffering from syphilis shall be isolated and treated, and if necessary detained in the institution until the infectious stage of their disorder is passed.

The New York College of Dentistry will open in the fall in a new and commodious building on Twenty-third Street, just east of the College of Pharmacy. The upper story of the Demilt Dispensary, which the College has just vacated, has been rented to the city for the use of one of the civil courts.

Dr. Sara C. Seward, a medical missionary in India, died recently of cholera at the Presbyterian Mission Station at Allahabad. She was a niece of William H. Seward, and was one of the first medical missionaries to go to India. She studied medicine in this country, and soon after receiving her degree accepted the appointment of medical missionary to India in the Zenana Mission, then just organized to send female physicians to treat and teach the women of India.

A Literary Course for Students of Medicine.—The Secretary of the Illinois State Board of Health, Dr. John H. Rauch, has issued the following circular, dated June 6, 1891: "There is a demand, from medical teachers and young men that intend to study medicine, for a literary course preparatory to the study of medicine. This demand has been met by a few of the literary institutions in the United States, and it is hoped and believed that it will be much more generally met during the next two years. The following institutions now offer science courses for students that intend to study medicine, or that intend to teach or otherwise engage in biological work: 1, University of Wisconsin; 2, University of Pennsylvania; 3, Johns Hopkins University; 4, University of Notre Dame; 5, Yale University; 6, Cornell University; 7, Princeton University; 8, Lake Forest University; 9, Northwestern University; 10, West Virginia University; 11, University of Kansas.

"As must be obvious, such a course should be based on biology, and should include thorough work in this science, as well as in osteology, comparative anatomy, and chemistry, with English, French, German, some Latin, clay modelling, free-hand drawing, mineralogy, mathematics through trigonometry, physics, mechanics, logic, general and pharmaceutical botany, and (in the last year) psychology. It is of course understood that botany, being a branch of biology, should have a prominent place in the course. The catalogues of the universities mentioned contain the lists of studies offered in their science courses. Such a course should extend over four years. This will involve no loss or waste of time to the student. The Illinois State Board of Health now requires that students of medicine matriculating in the autumn of 1891, or thereafter, must study medicine four years, and must attend three courses of lectures, no two in the same twelvemonth, in order to obtain a license to practise in Illinois. This rule will apply also in some other States. The Illinois State Board will, however, recognize a thorough course in science, such as indicated above, as equivalent to two years' study and one course of lectures, thus enabling the student to enter the second class in the medical college. This makes the full time of study six years in the literary and medical schools, or two years less than is required of the student pursuing a strictly classical course. Not only will time be thus saved, but the science student will be much better prepared to enter the second course of the medical school than will the classical student to enter the first year. The Illinois State Board wishes to make up a science course that can be recommended to any college wishing to adopt such a course, and, having but little time to study the subject, I desire to enlist your aid and have your advice in the matter so as to make the course as practical and as beneficial as possible. Will your faculty, therefore, make out such a course as it thinks best for the purpose, and send it to the Secretary of the Board? The demand from medical teachers and from students of medicine having been met by some universities, must be met by all that would continue to hold a high rank as educators of young men for the work of life."

The "Mattei" Cure for Cancer.—In the *Review of Reviews*, Mr. Stead has taken up the cudgels for Count Mattei, the "Italian nobleman," who advertises all over the world cures for cancer. Unfortunately, the medical journals, with one exception, think it beneath their dignity to attempt to interfere in the matter, in spite of the immense harm that must result to the public at large. With his usual energy Mr. Stead has started a test ward of five beds at a small hospital in London. He has a small committee of supervision, consisting of Sir Morell Mackenzie, Mr. Lawson Tait, and a Dr. Potter, s ıb editor of a nursing journal.—*Medical Reporter.*

The Wealthiest Insane Asylum in this country is probably the Sheppard Asylum of Baltimore. Endowed in 1857 with $560,000, the trustees, using the interest alone, have spent $880,000 in buildings and land, and still have a capital of $600,000. Dr. Edward M. Brush has just been appointed superintendent.

A Novelist's Anatomical Knowledge.—The critics are advising that brilliant cometary novelist, Rudyard Kipling, to be a little more careful about his anatomical facts before writing his next story. One of his heroes is reported as being permanently blinded by a sabre cut on the forehead, which *injured the optic nerve.—Medical News.* Our esteemed contemporary is too severe. Mr. K's hero develops an optic atrophy subsequent to a blow on the head and a good deal of vinous excess, which is good enough pathology for a novelist.

The French Association for the Advancement o Science will hold its annual congress at Marseilles, September 17th and 24th. One of the subjects discussed will be the sanitation of factories of chemical products.

The Fiske Prize.—The Trustees of the Fiske Fund have awarded a prize of $300 to Dr. Robert W. Lovett, of Boston, for an essay on "The Etiology, Pathology and Treatment of Diseases of the Hip-joint."

Statue to a Living Surgeon.—On May 30th Professor Deroubaix, the eminent Belgian surgeon, was presented with his statue in bronze by his colleagues of the Faculty of Medicine of the University of Brussels on the occasion of the fiftieth anniversary of his appointment to the Chair of Surgery in that seat of learning.

Dr. William M. Anderson, a native of Glasgow forty-five years of age, surgeon on the steamship Siberian, running between this port and Glasgow, died of heart disease on July 1st, and was buried at sea. He had been in failing health for several years, and had become surgeon of the Siberian, believing that a life at sea would lengthen his days.

The Biochemic School of Medicine.—A new medical sect has arisen in the West, and has already founded a college in the State of Washington, in which medicine is taught according to the biochemic doctrine, which is thus described by one of the lecturers at a recent meeting: "The innumerable cells of the human body are supplied by twelve mineral salts in the blood, which, when their proper proportion is interfered with in any manner, cause diseases of different natures, according to which mineral salt is deficient or in excess of its natural ratio; that is, the disturbance of this ratio puts the human system into a proper condition to absorb the disease germs that are constantly floating in the air. By providing twelve specific medicines by which the proper proportion of mineral salts is restored, health is regained and disease driven out by furnishing direct to the blood the same molecules that a perfect digestion and assimilation would furnish. The doses administered supply to the tissue cells the special salt, the lack of which is the cause of all diseases. Under the advance of biochemistry it has become possible to apply to each kind of tissue its own definite and peculiar salt, according to the requirements in disease. By the distinctive systems our physicians are guided in the choice of the particular cell-salts required, the immense variety and numerous complications of morbid states offering vast scope for exact medical practice wherewith to build up the great pyramid of scientific medicine of this advanced era."—*Boston Medical and Surgical Journal.*

Gynecology in Spain.—On February 23d of the present year, the Spanish Gynecological Society appointed a committee, consisting of Drs. G. Alarcon, E. Gutiérrez, A. Cospedal, and F. de Cortejarena, to consider the advisability of establishing a gynecological institute in Madrid. This committee has now reported that the creation of such an institution is urgently needed, not only in the capital, but in each of the provinces, as at present next to no provision is made in Spain for the treatment of women suffering from diseases peculiar to their sex. In the Madrid hospitals there are only a very few beds for such cases, and elsewhere things are even worse.

Death of Professor Scanzoni. — Dr. Friedrich W. Scanzoni von Lichtenfels, Privy Councillor of the Kingdom of Bavaria, and Emeritus Professor in the University of Würzburg, died on June 12th at Schloss Zinneberg, Upper Bavaria, after an illness which had lasted many years. He was seventy years of age.

The German Gynecological Society.—The German Gynecological Society held its Fourth General Congress at Bonn, from May 21st to 23d, under the presidency of Professor Gustav Veit. The meeting was opened by the President with an address on "Menstruation, Ovulation, and Conception." An interesting paper was read by Professor Dohrn, of Königsberg, on "Obstetric Practice among Private Patients." He said that though the introduction of antiseptics into midwifery practice had had good results, the full measure of benefit that might have been expected therefrom had not been attained. While the mortality of childbed had shown a notable decrease in certain large districts of Germany, in others no such diminution had taken place. The statistics for Prussia from 1816 to 1886 showed a marked decrease in the death-rates among mothers, commencing in 1870. On the other hand, those for the Grand Duchy of Baden, between 1873 and 1887, showed no marked improvement in recent years, and those for the kingdom of Saxony showed an actual increase of mortality among puerperæ in the last two years. This state of things Professor Dohrn attributed to the great increase in instrumental deliveries which greater facilities of communication and growing confidence in antiseptics had brought about in the last fifteen years. Operative interference was, according to him, to be deprecated, unless in a small minority of cases where it was absolutely necessary, and he appealed to medical practitioners to be less ready than they were at present (in Germany) in using the forceps in season and out of season. A further measure of great importance for the lowering of the puerperal death-rate was the betterment of midwives, in whose hands was the entire management of ninety-five per cent. of all confinements in Germany. "The interests of the lying-in woman," Professor Dohrn thinks, "are in the majority of cases best served if she is left in the hands of an intelligent midwife who takes her instructions from a medical man." Papers were also read by Dr. Ahlfeld, of Marburg, on the "Difference in the Death and Sickness Rates of Lying-in Women in Special Institutions and in their own Homes;" by Hofmeier, of Würzburg, and Leopold, of Dresden, on the "Diagnosis of Carcinoma of the Body of the Uterus;" by Bumm, of Würzburg, on "Puerperal Endometritis," etc. The programme included forty-two papers and thirteen demonstrations. Breslau was selected as the place for the Congress of 1893, when Professor Fritsch will preside.

A Wiesbaden Physician cured a wealthy patient of a dangerous disease. He thereupon gave $500,000 to found a hospital. He should have given a like sum to his doctor.

Lack of Appropriations in Connecticut.—Among the institutions for which no appropriation for the next year was made by the recent Legislature are the hospitals at New Haven, Hartford, and Bridgeport, temporary houses for neglected and abandoned children, and the collection and publication of vital statistics.

Medicine in Japan.—Among the questions the profession in Japan is asked by Mr. Ernest Hart to decide are these, viz., the etiology and communicability of leprosy; the pathology and prevention of beri-beri; the influence of prolonged lactation upon the mother's health, upon infant mortality, and the rate of increase of population; the comparative immunity of the Japanese from scarlet fever, and the rarity of its spread; the nature of senile (?) gangrene so commonly found in middle age in Japan; the influence of the customary hot baths, particularly in infantile pneumonia; the apparent unimportance of hemorrhages in typhoid fever; and the real place of massage as a therapeutic measure.

Society Reports.

OHIO STATE MEDICAL SOCIETY.

Forty-second Annual Session, held at Sandusky, June 17, 18, and 19, 1891.

W. J. CONKLIN, M.D., OF DAYTON, PRESIDENT.

G. A. COLLAMORE, M.D., OF TOLEDO, SECRETARY.

A RATHER larger attendance was present as compared with last year. The social features of the meeting included an excursion to Cedar Point, where a dinner, concert, and the President's address awaited them. An excursion to Lakeside, Kelley's Island, and Put-in-Bay Island was also given.

The officers chosen for the ensuing year were: *President*, Dr. G. A. Collamore, of Toledo; *First Vice-President*, Dr. X. C. Scott, of Cleveland; *Second Vice-President*, Dr. A. J. Gawne, of Sandusky; *Third Vice-President*, Dr. A. R. Baker, of Cleveland; *Fourth Vice-President*, Dr. F. D. Bain, of Kenton; *Secretary*, Dr. C. A. L. Fitzpatrick, of Cincinnati; *Assistant Secretary*, Dr. August Rhu, of Marion; *Treasurer and Librarian*, Dr. T. W. Jones, of Columbus. The following members of committees were appointed for five years: Finance, Dr. H. J. Herrick, of Cleveland; Legislation, Dr. D. J. Snyder, of Columbus; Ethics, Dr. S. S. Thorne, of Toledo; Publication, Dr. E. S. McKee, of Cincinnati; Admissions, Dr. A. F. House, of Cleveland.

A telegram of sympathy was sent Mrs. Dr. A. W. Ridenour, of Massillon, whose husband, an honored member of the society, and whose name was on the programme, lay dangerously ill.

Cincinnati was chosen as the place of the next meeting, and the date as the first Tuesday in May, 1892.

The matter of contract railroad surgeons was brought up, referred from the American Medical Association, and referred to a committee of five. The resolution making the members of auxiliary societies, that is, county and district societies, members of the State society, as Indiana and other States have done, very much improving their membership, was, after some discussion, passed. The business of the society is to be done by the delegates, and all members who are now members are not to be affected by this change, *i.e.*, deprived of the right of suffrage.

The committee to get a law passed by the Legislature for the protection of physicians, reported that, not liking the complexion of the present Legislature, they had not accomplished anything.

The President's address was on Molière and the doctors, and consisted of matter mostly historical, enumerating numerous sayings of Molière concerning the doctors.

The Surgical Treatment of Chronic Catarrhal Appendicitis was ably discussed by DR. R. HARVEY REED, of Mansfield. He discussed the uses of the appendix and concluded "everything can something do, but, pray, for what use are you?" He then paid special attention to the diagnosis. The paper was discussed by Drs. Reed, Scott, Kinsman, Ricketts, Hall, Baldwin, and Jones.

What Cases Shall be Drained After Abdominal Section was the subject of a paper by DR. R. B. HALL, of Cincinnati. The doctor had found considerable difference in opinions and in practice. So far as he was aware he was the only one who uses universal drainage, which he does now in every one of his cases. He will continue to give his patients the benefit of the doubt by continuing to drain in every case in which the peritoneal cavity has been opened. He favors the small Price tube.

DR. EDWIN RICKETTS, of Cincinnati, corroborated Dr. Hall in the use of the drainage-tube in every case, though sometimes he only uses it two hours. He uses Keith's tube. DR. R. H. REED spoke favoring the tube. The paper was further discussed by DR. S. S. THORNE, of Toledo, and the discussion closed by DR. HALL, who showed samples of tubes.

Three cases of the "Radical Cure of Hernia" were reported by DR. F. C. LARIMORE, of Mt. Vernon. He had operated after Marcy's method. He showed the kangaroo suture. He believed the radical cure of strangulated hernia was justly considered one of the triumphs of surgery.

DR. J. C. REEVE, of Dayton, read a paper before the Ohio State Medical Society upon the A. C. E. mixture. He found justification in further study of anæsthetics in the wide difference of opinion as to which is the best agent, and in the fact of accidents with both chloroform and ether. The origin of the A. C. E. was with Dr. Hailey, of London, and it was strongly recommended by the Chloroform Committee of the Royal Medico-Chirurgical Society of London in 1864. Since that year the author of the paper had used it with all sorts of patients, in all kinds of operations, almost exclusively as an anæsthetic, except in obstetrics and for young children. Was the alcohol of the mixture of any value? This is answered decidedly in the affirmative upon chemical grounds: the union is a chemical combination, not a simple mixture. This annulled one of the most frequent objections to the mixture, viz.: the different rate of evaporation of the ingredients. Other objections were considered and special attention given to the physiological experiments of Dr. A. B. Watson, which showed results adverse to the mixture. Accidents from the A. C. E. mixture were studied, there had been three deaths and a number of cases in which dangerous symptoms were manifested. Of the latter, the author had met with three in his own practice, covering a period of twenty-six years. But the mixture was not presented as an absolutely safe anæsthetic, for such a thing does not exist. Finally, with a due appreciation of the insignificance of the value of any individual experience with anæsthetics, the author expresses his strong conviction of the advantages of the mixture as compared with either of the leading anæsthetics, its greater promptness, its lesser unpleasantness, and its greater safety as against chloroform.

DR. W. G. SCOTT, of Cleveland, queried if persons affected with kidney trouble did not do badly under ether.

DR. MCCURDY, of Youngstown, had used all the anæsthetic mixtures and had no accident. He likes to use the A. C. E., and has had more nearly fatal accidents from ether than anything else.

DR. R. HARVEY REED, of Mansfield, is afraid of chloroform every time he gives it, though he likes its action in other respects. He related his experiments on the lower animals and discussed the various methods of administration.

DR. H. J. HERRICK, of Cleveland, said we have many varied conditions which all demand consideration—the patient and his condition, the mixture, and the method of administration.

DR. X. C. SCOTT, of Cleveland, said that we have in A. C. E. two gases, one heavy and one light. We have no assurance of how much of each our patient is getting. I have abandoned all anæsthetics except chloroform. I always give whiskey some time before giving the anæsthetic.

DR. F. C. LARIMORE, of Mt. Vernon, believes in straight ether and straight chloroform. Children under ten years of age chloroform, over ten years of age ether. It is very important to have the confidence of the patient.

DR. S. S. THORNE, of Toledo: As for me and my house, we will use the A. C. E. I never saw an evil effect from its use.

DR. J. H. BALDWIN, of Columbus, reported a death from chloroform which occurred after the cessation of the administration—four minutes. The patient (female) was inverted, artificial respiration was used, and the heart was stimulated by pricking it with a hypodermic needle. He has used chloroform in most cases, but shall not use it as confidently as before. I have used the A. C. E. and shall

use it in the future. I do not think children possess that immunity from chloroform generally believed.

Dr. T. A. Reamy, of Cincinnati, was surprised that gentlemen would use a mixture of anæsthetics and run the risk of both. I gave chloroform for years in a large number of cases and never had a death. I never saw a death from chloroform, ether, or A. C. E. I would give ether, unless there is some trouble with the bronchial mucous membrane or other mucous membrane. I can put the patient profoundly under the influence of ether in four minutes. Why not give chloroform? It is not as safe as ether. That is all there is of it. Alcohol has the same effect as chloroform. I have found the effect of digitalis on the heart magical.

Dr. J. C. Reeve, of Dayton, warned the gentlemen against the use of vitalized air, which had been brought into the discussion. It is nothing but chloroform diluted with air and perfumed. I have made careful clinical studies of every case which proved fatal since the use of anæsthetics. That children are safe against chloroform is a delusion and a snare. I do not believe that A. C. E. evaporates differently. Ether first, then the chloroform. We want further investigations. I have no faith in the action of digitalis in heart-failure from chloroform; it is all right in theory, but you cannot get its action in time.

Carcinoma a Form of Perverted Nutrition was the subject of a paper by Dr. H. J. Herrick, of Cleveland. He thought that in our ideas of cancer we were in error and that we have not made progress since the days of Hippocrates. He considered the new growth to exist in the white blood-corpuscles. The great mistake we make is to treat only the visible disease and not the constitution.

A Case of Dropsical Distention of Douglas's Cul-de-Sac was reported by Dr. J. F. Baldwin, of Columbus. The distention was very great, producing a tumor that projected at the vulva as large as a cocoanut. It had existed for two years, and was a source of great annoyance and distress. On lying down, or on pressure, the contents, which consisted wholly of serum, would pass into the abdominal cavity, and the tumor would disappear. A tumor as large as an orange existed on each side of the womb, and it was supposed that the dropsical effusion was due to the pressure of these tumors on the veins of the broad ligaments. As the patient would not consent to the removal of these growths, a less radical operation was decided upon. An incision was made through the vaginal wall into the cavity of the sac, the contents allowed to escape, and the pelvic cavity explored by passing the finger through this incision. It was then ascertained that one of the tumors was a cyst of the broad ligament, and the other a cyst of the ovary, with such adhesions that the opening between the general peritoneal cavity and Douglas's sac would barely admit the passage of the examining finger. It was decided to attempt to secure obliteration of the sac, and its inner surface was accordingly wiped over with a 1 to 1,000 solution of corrosive sublimate. A local peritonitis ensued, as was expected, and the result was a complete cure. So far as the operator could ascertain the case was a unique one, and none of the members present could throw any light upon it.

Tests for Albumin was the title of a paper read by Dr. William B. Davis, of Cincinnati. He said: Among the equipments required of the physician of to-day is that of making a thorough examination of the urine. In the United States albuminuria has been found to prevail in from ten to twenty per cent. of all persons examined; in Great Britain and Europe larger percentages have been found, Professor Grainger Stewart having demonstrated its presence in nearly one-third of the population. Professor Senator, of Berlin, states in his recent work, that forty-one out of every one hundred healthy individuals, particularly soldiers, have albuminuria.

Of late years there has been a great multiplication of tests for the discovery of albumin in the urine. Posner's test, as published by Senator in his late work, is this: "Add to the filtered urine three times its volume of alcohol or a concentrated aqueous solution of tannin, wash out the precipitate with water, and then dissolve with acetic acid. Or add a large quantity of acetic acid to the urine, and then evaporate in order to concentrate the urine. In both cases in the acetic-acid solution, all the tests for albumin which are not influenced by the acetic acid will give a positive result." There is no doubt that some of the tests recently introduced are useless, others misleading, and some are very difficult of application. In order that there may be uniformity in our investigations, there should be an agreement by chemists and the medical officers of life assurance companies upon certain tests for albumin in the urine which shall be recognized as standard.

Dr. Davis here quoted a number of authorities who gave different tests for albumin, and from all the testimony he concluded that the familiar tests of heat and nitric acid were the most popular, the best, and most reliable reagents for the detection of albumin in the urine. Professor Vaughn, of the University of Michigan, wrote him that he thought the only tests which distinguished the albumins from the albuminoses and peptones were the nitric-acid and heat tests, the nitric-acid contact test, and acetic-acid and potassium-ferrocyanide test.

The author concludes, however, that the refinement of our chemical tests, and the fact that some of them give reactions with other proteids than serum-albumin, do not account for the wide discrepancy between the American and Continental reports of the prevalence of albuminuria in persons otherwise healthy.

Notes on the Treatment of Syphilis: Its Evolution and Present Status, by William Thomas Corlett, of Cleveland, O. The author went into the history of syphilis and its treatment from the time of Moses through the centuries to the present day. He finds that mercury in some form has had more ardent advocates than any other treatment. It is the only known drug which possesses any curative influence on the disease. The virus may be eliminated by the natural eliminative forces of the body in from one to thirty years, but under the use of mercury its manifestations become infrequent and finally the organism becomes free from the morbific influence. Authorities differ as to when it is best to begin the use of mercury, but doubtless the best course is to begin as soon as the diagnosis of syphilis is made. The special form of mercury depends upon the individual case, but generally speaking the protosalts are preferred to the bisalts at the beginning, as calomel, mercury with chalk, the blue pill, either alone or combined with iron. A fertile source of error is the substituting the iodine compounds for mercury. Good results will follow the mixed treatment of iodine and the prosalts of mercury late in the course of the disease. Iodine should be discontinued as soon as practicable, although mercury should be given at intervals for one or two years after all manifestations have disappeared.

The author has encountered three cases in young robust subjects over which mercury had no specific influence. The disease finally yielded to one-twentieth grain doses of the chloride of gold and sodium, taken from four to six times daily. As aids to the treatment, the use of tobacco should be avoided, and a special course of living best suited to regulate his physical welfare should govern the patient. The Hot Springs of Arkansas are much frequented by those who think to have the disease "boiled out" of them, but it is quite generally recognized by syphilographers that the waters have no specific effect on syphilis, and in some instances the best physicians there have advised against their use.

Some Facts Every Practitioner Should Know About Squint.—Dr. A. R. Baker, of Cleveland, read a paper on this subject: "Is the Ambylopia of the Squinting Eye the Cause or the Effect of the Squint?" The weight of opinion seems to be that the theory of Donders is correct. A fact that every practitioner should know is that most

cases can be cured without an operation by the use of most carefully-fitted spectacles. As a general rule, the nearer the correction of the error of refraction is attained the better. In order to do this accurately the accommodation should be paralyzed with atropia in every case. Spectacles should always be given in preference to nose glasses. Treatment based upon the facts that the squint is due to the error of refraction, that binocular vision can be restored, and that squint can be cured without an operation has met with the most gratifying results. In treating cases of squint the author has usually been governed by the following rules: 1. If the squint is alternating and the vision fairly equal in both eyes it is seldom necessary to operate. 2. If the squint is fixed in one eye, but the vision of that eye good, the same rule should be instilled into the working eye occasionally, and possibly a patch kept over it, and orthopedic exercises indulged in as described by Landolt 3. If the squint is fixed in one eye and the sight very defective, and no improvement after patient trial with lenses and covering good eye, only a cosmetic result can be attained. The operation should be performed any time after the sixth year.

Abdominal Tumors.— Three cases showing unusual difficulty of diagnosing abdominal tumors were reported by Dr. T. A. Reamy, of Cincinnati. The cases were of very great interest, and were selected from a large number on which the doctor had recently operated, which showed the great difficulty of accurately diagnosing abdominal tumors. He thought an injustice was frequently done doctors who were previously in charge of cases operated on, the operator not finding the conditions present said to exist by the former physician in charge. These conditions are not always easy to determine accurately, and then, too, they sometimes change with changing years.

The Operative Treatment of Uterine Cancer was the subject of a paper by Dr. D. Todd Gilliam, of Columbus. He considered the two operations, total extirpation and high amputation, favoring the latter.

Salpingitis, with Report of Two Cases, was the title of a paper by Dr. A. B. Walker, of Canton. Operations were strictly aseptic, and no chemicals were used in the abdomen. He believes that the early treatment of endometritis would in many cases prevent the formation of salpingitis. Gonorrhœa in women becomes a matter of considerable importance in view of its sequences.

Dr. Edwin Rickets discussed the paper.

Papers were read by Dr. C. W. Tangeman, of Cincinnati, on "Convergent Squint and Its Treatment;" by Dr. A. C. Thrasher, of Cincinnati, on "Papilloma of the Larynx, with Case;" by Dr. C. N. Smith, of Toledo, "Gonorrhœa in Women;" by Dr. A. B. Richardson, of Cincinnati, "Home *vs.* Hospital Treatment of the Insane," "Influenza;" by D. N. Kinsman, of Columbus, "Convergent Squint and Its Cure;" by Dr. C. W. Tangeman, of Cincinnati, "The Value of Drainage in Cases of Bleeding After Laparotomy;" by Dr. M. Stamm, of Fremont, "Compound Gangla Treatment by Operation;" by Dr. C. S. Hamilton, of Columbus, "Hernia;" by Dudley P. Allen, of Cleveland, and others.

The University of Pennsylvania.—It is announced that important additions were made to the faculty by the board of trustees at their last meeting. Dr. George A. Piersol was chosen Professor of Anatomy, to succeed the late Professor Leidy; Dr. Harrison Allen, Professor of Comparative Anatomy, to succeed to Dr. Leidy's chair in the Biological School, and Dr. John B. Deaver, Assistant Professor of Applied Anatomy. Dr. Edward Martin was elected to the chair of Special Surgery. In the Veterinary Department Dr. S. S. J. Harger was elected Professor of Veterinary Anatomy, and Dr. Leonard Pearson, who is now pursuing special studies at the Royal Veterinary School of Berlin, Assistant Professor of Veterinary Medicine.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, April 3, 1891.

George L. Peabody, M.D., President, in the Chair.

Tubercular Synovitis.—Dr. R F. Weir presented a young woman who had suffered for some time with ganglions or hydrops of the sheath of the ring-finger below the annular ligament only. Numerous melon-seed bodies could also be felt very distinctly within the sheath. Recent observation had shown these cases to be tubercular. The older operation of making an incision above and below the annular ligament when the swelling existed on both sides, washing out, and making pressure, succeeded very seldom indeed, and had been abandoned for the newer one of dissecting out the sheath after first expelling the blood by Esmarch's bandage. In the present case the rubber bandage was applied, the sheath was exposed and carefully dissected out throughout its whole circumference and from the distal phalanx up into the palm. There was a moderate amount of fungous attachment up the tendon, which was scraped off. The operation was performed in February, and the patient had regained very good use of the hand, although there was yet some sensitiveness on passive motion. He said it was now claimed that tubercle bacilli could be found in all these cases.

Dr. Gibney said he had recently had a case involving one of the foot tendons, but Dr. Thatcher was unable, after examining a large number of the rice-like bodies which had been removed, to find any tubercle bacilli. In this case the operation was followed by excellent functional result.

The Treatment of Graves's Disease.—Dr. William H. Draper, in lieu of a paper promised on this subject, made the following remarks:

I chose the subject of the treatment of Graves's disease, not because I have anything to say upon this subject which would enlighten the members, but because it is a disease which has always interested me, and because the treatment of it is so unsatisfactory that I think it is desirable it should be made a subject of frequent discussion, and that the views of gentlemen who are in the habit of seeing it should be given.

Another reason why I was moved to suggest this subject for discussion is, that I think the disease is a much more common one than is generally supposed by those who regard it as consisting only in the manifestation of the characteristic triad of symptoms which first excited the observation of Graves and afterward of Basedow. I am persuaded from my own experience, as I have no doubt other members of this society must have been persuaded by their experience, that the disease often presents itself in partial, and, so to speak, rudimentary forms. The characteristic cases, those in which exophthalmus, the thyroid enlargement, and the extreme frequency of the heart's action occur, are perhaps not very common. But the partial cases, those in which one or two of these characteristic phenomena may be present, and above all in which the other nervous symptoms of the disease are present, I think are very frequent. Of course it will be admitted by all of us that the disease must be regarded as a pure neurosis. I say this not without a knowledge, of course, of the views of those who have supposed that it had an anatomical lesion. I think that the literature of the disease shows that the anatomical lesion, the lesion of the ganglia of the cervical sympathetic, is by no means a common one. Some cases have been observed in which the ganglia of the sympathetic of the neck have shown sclerotic changes. But even if this lesion could be regarded as the characteristic lesion of the disease, it is not one which would explain the phenomena. An irritation of the cervical sympathetic would account, of course, for the rapid heart action, but it would not account for the exophthalmus, nor for the thyroid enlargement. It might account, possibly, for a good many of the nervous symp-

toms which corollate themselves with the characteristic manifestations of the disease.

In my experience these nervous phenomena are, perhaps, quite as interesting as the characteristic exophthalmus, enlargement of the thyroid, and action of the heart. They manifest themselves, as you all know, by affections of the higher centres, and by very marked spinal symptoms. I have been struck in my experience with the psychical peculiarities of patients with this disease. It is well known that in insane asylums these cases not infrequently are found; I think the psychical condition most common is a melancholia, more or less well-marked. I have seen a number of cases of that sort, and I have seen it presenting the phenomena of a psychical mania. That is to say, a depression alternating with periods of considerable excitement. These patients, as we know, are extremely irritable, extremely emotional, extremely unhappy, and often show very marked symptoms of melancholia.

The other nervous symptoms which are almost always present in more or less marked degree are of spinal origin. Those which have presented themselves in my experience are great muscular tremor, sometimes very marked, sometimes only confined to the hands, sometimes quite general, and accompanied by fibrillary contractions of the muscles of the face. There has been also in some cases which I have seen a marked degree of muscular paresis, so that the patients were very feeble. I remember one lady who was under my care, and who by the way made a most excellent recovery in a shorter time than I had ever before seen the disease recovered from, used to fall in the street, and was so feeble that she rarely went out through fear she should fall down. The tremors, I think, are very common. The paretic symptoms are not always so marked as in the case I have mentioned. They are also sometimes associated with choreic movements. There are also signs of trophic disturbance, which manifest themselves in local congestions and in sweatings. I have never seen a case of unilateral sweating, which is said sometimes to occur, but I have seen a tendency to marked flushing and general sweating, and sweating of the hands and feet.

All of these symptoms, it seems to me, point to the conclusion that the disease is a general neurosis, and one which is not accounted for by either of the characteristic symptoms, for they, like these other nervous symptoms which I have mentioned, must be regarded as the result of some obscure cause about which we know nothing. The circumstances under which the disease occurs also point, I think, to the conclusion that it is a general neurosis. It has been observed that it is in a very considerable number of cases a hereditary disease, and that it is one of the transformations that are observed in persons of neurotic inheritance, occurring in families in which insanity, epilepsy, and other neurotic affections have been observed. My own experience does not show any very marked confirmation of this statement, but I think it is one which has been made and with a good deal of confidence.

Taking this view of the nature of Graves's disease, the treatment, of course, must be very variable and very comprehensive. A treatment which is designed mainly to control the action of the heart, which is perhaps the most uniform symptom present, does not cure the disease. Nor does any measure which is devoted especially to the treatment of the thyroid enlargement control the malady. It has to be treated upon general principles, just such general principles as would be applied to the treatment of any general neurotic affection.

In my experience physical rest is a point of very great importance. I do not believe that it is possible to treat these cases with any success without putting them to bed, and I am sure that that is a point of cardinal importance. Where the psychical phenomena are very marked, I think it is very desirable they should be treated as you would treat any melancholic patient; that they should be often sent away from home, and protected from surroundings which frequently aggravate the malady, for they are extremely sensitive to every disturbance. And inasmuch as they often arise from causes which are present in the home, the emotional disturbances which are incident to their surroundings, it is extremely important that they should be separated from them.

Next to the treatment by rest, I think that the dietetic treatment is important, for very often these patients suffer from innutrition and require very careful feeding, and this, in connection with passive exercise by massage and manipulations, I believe may often be of great service.

In regard to the treatment by drugs, I confess that there is in my experience, as there must have been in the experience of most of the members, a very large degree of dissatisfaction. I think that the use of cardiac tonics is often very beneficial. The one from which I have derived most satisfaction, I think, is digitalis and the class of cardiac tonics to which digitalis belongs. In using digitalis I have been in the habit of using it to get its effect upon the extremely accelerated and irregular action of the heart, and of giving it frequently in pretty large doses. I have used aconite in the form of the tincture and in the form of the active principle, aconitia, but have not had very good success with it. I think it is inferior as a heart tonic in these cases to digitalis. I have not had any experience with spartein, nor have I used strophanthus in these cases.

A remedy from which I have in some instances seen most beneficial results, and I have used it on the principle that it influenced markedly the heart's action, is iodide of potassium. This is a remedy, as you all know, which has long been used in this disease, its use being based in all probability upon its supposed power to diminish the thyroid enlargement. The first one in which I used it, thirty years ago, was one of the most marked cases which I have ever seen. It occurred in a woman about thirty-five years of age, who had a very large thyroid, most marked exophthalmus, and extreme rapid action of the heart. I used in her case iodide of potassium alone, and she made a perfect recovery in a few months, and is now perfectly well, leaving no trace of her disease. Another case I alluded to a few minutes ago, in a young woman of twenty-five, who had an extreme exophthalmus, a tolerably large thyroid, and very rapid action of the heart. She also recovered completely under the use of iodide of potassium. In that case, however, I also used small doses of digitalis. I have seen very excellent results in a considerable number of cases from the iodide, without complete cure, but I am sure that they were greatly relieved and the disease kept in abeyance and much benefited by the use of iodide of potassium.

I have had no experience with galvanism of the sympathetic, and I think from all that I have read upon the subject that the results of that treatment have not been such as to encourage its use.

Dr. Samuel Sexton asked Dr. Draper how frequent he had seen the pulse in Graves's disease.

Dr. Draper replied that he had counted it from 160 to 180. Again, he had seen cases in which the action of the heart was not extremely rapid, in which the other phenomena were present, and he thought there was this variability in all the symptoms. It was not very often that one saw all the triad of symptoms extremely marked. There might be a pulse of very moderate degree, with exophthalmus and thyroid enlargement, and the other phenomena which he had mentioned, and again there might be rapid action of the heart without much thyroid enlargement, and without much exophthalmus.

The Treatment Compared to that in Hysteria.—Dr. Francis Delafield said his own experience with the treatment of Graves's disease was much like that of Dr. Draper's. It seemed to him that, after all, one treated these patients very much as he treated cases of hysteria. As in hysteria, not only the treatment was of consequence, but also the person who directed the treatment; it was

not only what was done, but the person who did it. The practical management of the two diseases, hysteria and Graves's disease, seemed to him really very much the same.

Dr. Draper cited, in illustration of the truth of Dr. Delafield's statement of the necessity for a good adviser, a case where the disease had its origin apparently from emotional shock caused by the discovery of the infidelity of the husband. It began, it seemed, in disturbed cardiac action, and the other symptoms developed more slowly. There was a case in which it was perfectly plain how important it was for the patient to have a judicious adviser, who would look beyond treatment by drugs.

A Disease of Great Obstinacy.—Dr. Francis P. Kinnicutt had been impressed by the etiology which ascribed the disease to a neurosis and disturbance of the emotional nervous system, as had been claimed by many distinguished authorities; also by the kind of treatment which Dr. Draper and Dr. Delafield had found of importance. In his experience everything which tended to improve the morale of the patient was of just so much benefit. He had seen in the past year several cases in which that was conspicuous. The environment was such that, as long as it existed, in spite of every effort there was little improvement in the condition. With an entire change of environment, with the same medication (it was not a very pronounced one), certainly improvement did occur. But it was a disease of the greatest obstinacy, and where one got, as Dr. Draper had said, one or two complete recoveries, there were a great many cases that only partially recovered. The most distressing symptom, probably, aside from the psychical disturbance, was the extreme frequency of the heart's action, which was most common and most distressing. He thought that that was often benefited or completely disappeared, but the thyroid enlargement might remain after months and even years. He had been able to watch some cases through many years, in which the extreme frequency of the heart's action had entirely disappeared, and the psychical condition improved, but some fulness of the thyroid and some exophthalmus had remained. He believed that was the rule rather than the exception. He had seen two cases the past year, one in a boy of eight years, one in a young woman, in whom a change of environment caused a marked improvement. The extreme frequency of the heart's action quite disappeared, but the enlargement of the thyroid was just as marked as it was when they first came under observation. In a third case, that of a young woman of about twenty-five, the increased cardiac action and the thyroid enlargement quite disappeared under a change of environment, but returned when she came back to New York. She was advised to go away again, and to choose a quiet place, but instead, went to Bermuda, where she was under considerable excitement, and there did not improve.

Digitalis.—As far as drugs were concerned, he had found digitalis of more benefit in controlling the condition of the heart than any other. He had tried strophanthus and spartein and had come back to digitalis. He usually gave at the same time some preparation of iodine or bromides at the same time. He asked Dr. Draper and Dr. Delafield their experience with regard to the tendency of the symptoms in Graves's disease to recur, and in some cases to last a long time, measured by years.

Dr. Draper said, in reply to Dr. Kinnicutt's question, that he had had that experience. He had that day seen a lady who had developed this neurosis three or four years ago, and who, by the way, had an epileptic mother. She recovered after a few weeks' rest, and remained quite well. She then went to Europe, and when she returned had another attack. She recovered from this attack rather more speedily, under good care, digitalis, and iodide of potassium. She remained well a shorter period. He treated her early last fall, and recently she had had another attack, accompanied with extreme depression, and more symptoms of melancholia than he had ever seen before in this class of patients. In the attack previous to this one she had had a very exalted state of mind, was very much interested in society and in literary work, waking up at night and going to her table to write. As he had said, this subsided after she went away from the city, and she remained pretty well for two or three months, when she began to be depressed. This time she had not very rapid action of the heart, the pulse was not more than 80, she complained not at all of a sense of palpitation. but the exophthalmus was quite marked, and the thyroid enlargement was about as great as it had been.

Iodides.—He asked Dr. Delafield what experience he had had with the iodides. He supposed their action was much as in other affections of the heart, in asthma, etc., and it seemed rational to suppose that they would affect the cardiac symptoms favorably in these cases.

Dr. Delafield replied that he had used iodides, and he had used other drugs, but must confess that the thing which had always seemed to him of most importance was the management of the patient rather than the drug. For instance, if one compared the results in patients seen in private practice who could be managed, with that in patients seen at outdoor clinics who simply got the drug treatment and nothing else, he would be struck by the greater benefit effected in the former class.

Dr. Draper said he had seen some such marked results from iodide of potassium that he could not help having some faith in it as a drug in its action upon the circulation.

Dr. Delafield added that the action of the iodide of potassium upon the heart was often better than that of any other drug, but that, he thought, brought one to cases on the border line which it was difficult to be sure about. It seemed to him we got the best results from iodide of potassium in cases which had the rapid heart action alone, and those were just the cases which we could not be sure were cases of Graves's disease at all.

Dr. Draper asked Dr. Delafield further whether he did not think that Graves's disease spread itself out over a pretty large area.

Dr. Delafield replied that he would go even further, and say that he would not be sure that Graves's disease was a disease; that it had an entity; whether certain cases which we were in the habit of grouping together for convenience belonged to the same class, to the same disease. Regarding the obstinacy of these cases (the question raised by Dr. Kinnicutt), he said some patients would get better, and we knew no particular reason why they should; others whom we thought should get better would show no improvement. Again, there would be relapses, perhaps without apparent cause. In short, the cases were very capricious. There were plenty of cases which did not get better at all.

Dr. Kinnicutt said he had recently looked over the statistics, and had been somewhat surprised at the number of deaths which had been attributed to Graves's disease, cases in which the triad of symptoms existed.

Dr. Draper said that a number of cases of organic heart disease presented in their course some symptoms of Graves's disease. He then had a case of aortic obstruction and insufficiency in the hospital who had very prominent exophthalmus, no enlargement of the thyroid, but very rapid action of the heart. The man had just the appearance of a case of Graves's disease.

Dr. Kinnicutt added further that the usual cause of death seemed to have been marasmus, or suffocation from pressure of the thyroid on the trachea. As to treatment by rest, most benefit from this measure had been observed in cases in which the cardiac symptoms were prominent. Such cases, if allowed to go about in their usual way, seldom improved in any marked degree. Within the last day or two he had seen a woman, who, fifteen years ago, when under Dr. McLean, had a very marked attack of Graves's disease, with the triad of symptoms. After a number of years the triad of symptoms disappeared. He was asked to see this woman last

autumn, and while there was no indication of the old trouble, and no evidence of organic heart disease in the form of murmur, enlargement, or displacement, yet the heart's action was remarkably irregular. It was evidently a neurosis. The patient was able to drive out, and played croquet, yet her case was the most marked one of persistent irregularity of the heart's action which he had ever seen.

Galvanism at the Salpêtrière.—Dr. C. L. Dana, having just arrived, made some remarks upon the therapeutics of Graves's disease. He said he had passed through the wards of the Salpêtrière, Paris, last summer, and was told that Charcot taught that galvanism was the leading therapeutic agent. Although other things helped yet they relied chiefly on galvanism, which, if used persistently, would usually render the patient fairly comfortable. Dr. Dana's experience with this agent had not been quite so favorable, although he had seen good result from it, and there was no doubt but what it would, for a time, lessen tachycardia and some other symptoms. He had also seen some good results from iodide of potassium, but he had seen cases apparently cured by hydriodic acid in which the iodide had failed to give relief. A method of treatment which he had employed with a good deal of success, at the post-graduate clinic, was forced respiration. Credit was due to a lady physician of this city, Miss Bryson, for having observed that in the majority of cases of Graves's disease there was markedly diminished respiratory expansion, the patients being unable, after most persistent efforts, to expand the chest much more than half the normal. Dr. Dana had observed this fact in many cases. When he mentioned it to Charcot's assistant, he said he had not noticed it, but Dr. Dana was able to demonstrate it on the first patient shown him. Taking advantage of this observation his treatment had consisted in part of systematic respiratory gymnastics. He did not think there was any single agent which could be relied upon in all cases, but with the use of both drugs and hygienic measures he thought there were very few cases which could not be improved.

The President had obtained little benefit from cardiac tonics, such as digitalis and strophanthus. As to iodide of potassium, it seemed to him that the principal benefit was from the potassium rather than from the iodine, and that the bromide, for that reason, was about as useful as the iodide.

Dr. Dana said that many in the city had claimed to obtain benefit from carbacetate of ammonia.

Therapeutic Hints.

Chancroids.—Antifibrine is recommended as an efficient substitute for iodoform in the treatment of chancroids and also as an application to hard chancres, possessing the unquestionable advantage of being free from odor.

Interstitial Hepatitis.—Dr. Luigi Toralbo, writing in the *Gazzetta Medica di Roma*, recommends the employment of potassium iodide and the observance of a modified milk diet in the treatment of cirrhosis of the liver.

Treatment of Fracture of the Lower End of the Radius.—Dr. P. S. Conner, of Cincinatti, writing in the Fort Wayne *Journal of the Medical Sciences*, advises the treatment of fractures of this kind with a simple wristlet or an adhesive plaster band, which, he says, gives comfort by its steadying action, and at the same time answers the purpose as well as any other dressing in limiting the spreading of the wrist which results from the tearing loose the fibro-cartilage and its necessarily more or less imperfect reattachment to the ulna. In a few cases in which he has employed this method, discarding splints, he has been well pleased with the results obtained. In order to insure the success of the procedure, however, it is absolutely necessary that not partial but complete replacement of the fragments be primarily effected.

Vinegar in Croup.—Dr. S. J. Bumstead regards vinegar as a very valuable therapeutic resource in catarrhal and membranous croup. He uses it in the form of vapor, pouring the liquid into a bread-pan and then putting into it bricks or flat-irons heated in the stove. In this way the room soon becomes filled with a cloud of acetic vapor. He also employs internal medication, but looks upon the vinegar inhalations as of first importance in the management of the disease.—*North American Practitioner*, May, 1891.

Etherization in Croup.—Dr. Friedrich Betz reports, in *Memorabilien* for April 18, 1891, a case of croup in a child aged thirteen months, who was apparently moribund when seen, in which recovery followed the inhalation every 15 minutes of 3 drops of a mixture of 1½ grain of menthol, 15 minims of acetic ether, and 45 minims of sulphuric ether. He says that in another similar case he would increase the quantity of menthol to about 5 grains—the amount of the mixture inhaled being increased proportionately to the age of the child.

The Internal Use of Resorcin.—Resorcin has not been employed to any very great extent as an internal remedy, its use being chiefly confined to external applications. Dr. H. Menche has, however, been giving it in many internal disorders for a number of years, and reports his results in an article in the *Centralblatt für Klinische Medicin*, No. 21, 1891. His first essays were made in cases of cholera infantum, for which he gives a prescription containing from five to seven grains of resorcin in three ounces of simple syrup and water, a few drops of compound tincture of gentian or, if thought necessary, a minute quantity of laudanum being added. In cholera nostras also good results were obtained, the vomiting being speedily controlled and the patient making steady progress toward recovery. The author holds that resorcin is indicated in all forms of gastritis, in the dyspepsia following indiscretions in eating or drinking, in acute and chronic gastric catarrh, and in rumination. In acute ulcer of the stomach, however, the drug is contraindicated. In the vomiting of pregnancy, in sea-sickness, and indeed in all forms of vomiting, from whatever cause, Dr. Menche recommends resorcin as of undoubted utility. He also used it with apparently good effect as an hypnotic in a few cases. The remedy was given in solution or in powder, the dose for adults being from one and a half to two grains every two hours. As an hypnotic he is in the habit of ordering a single powder of seven and a half grains at bedtime. For sea-sickness he gave one or two grains in sugar of milk every two hours, and reports some very successful cases of this treatment. Of course, he insists upon the necessity of obtaining a perfectly pure specimen of the drug in order to secure the results desired.

Dog's Blood Serum in Tuberculosis.—Some French observers have recently made a number of experiments with the injection of the blood serum of dogs in cases of tuberculosis of the lungs and larynx, and report that the measure appeared to have been beneficial. The appetite was improved, the cough and night-sweats ceased, and the patients increased in weight. The amount of serum used each time was from one-half to three-fourths drachm, and the injections were made in the lumbar region once in two or three days.

Tincture of Iron in Bright's Disease.—Dr. Wyss employs the ethereal tincture of the perchloride of iron, in doses of ten drops three times a day, in the treatment of chronic Bright's disease. He reports a large number of cases so treated, in more than half of which the albuminuria rapidly and completely disappeared.

Chloralamid in Surgery.—Dr. Emory Lanphear, of Kansas City, regards chloralamid as an excellent hypnotic, when such a remedy is needed after a surgical operation. He gives from fifteen to thirty grains, dissolved in whiskey, repeating the dose in an hour if the first have not produced the desired effect. He suggests the following as a good formula for the exhibition of the drug :

℞. Chloralamid ..... ʒ ij.
Spts. frumenti ..... fl ℥ j.
Misce bene et ft. solut. et adde :
Syrupum rubi idæi..... fl ℥ j.
Misce. Sig. : Dose. one tablespoonful, to be repeated in one hour if sleep is not produced. This makes a decidedly pleasant mixture of slightly acid taste and fruity aroma and flavor.

Hæmoptysis.—The following is recommended as useful in hæmoptysis when the loss of blood is slight but persistent :

℞. Turpertine,
Oil of sweet almonds .....āā ʒ j.
Mucilage of acacia,
Simple syrup.....āā ʒ iv.
Distilled water ..... ℥ v.
M. S. : One teaspoonful every half hour.

Rhus Poisoning. — A lotion of three drachms of powdered ipecac in a pint of water is recommended very highly by Dr. W. S. Gilmore, in the *Country Doctor*, as an application in the dermatitis caused by poison ivy.

Styracol is the name of a recently introduced antiseptic. It is said to be a cinnamic ether of guaiacol, and is prepared by mixing equal parts of guaiacol and chloride of cinnamyl, warming and adding boiling alcohol. When the mixture cools, needle-shaped crystals of styracol are deposited. It is said to be of value internally in catarrhal conditions of the alimentary and genito-urinary tracts.

Sea-salt for the Relief of Insect Stings.—Rubbing the parts with sea-salt, dampened with a little water, is efficacious in relieving the distress caused by stings from wasps, bees, and other less formidable insects. The pain and swelling quickly subside after such an application, and if the salt be applied at once these phenomena will usually not appear.

To Promote the Absorption of Iron.—Essential oil of thyme made into a pill with soap and althæa is reported by Dr. Gros to aid the digestion of iron in anæmia and chlorosis. The daily dose is 2 minims, divided into three pills, and to be taken after each meal.

Ingrowing Toe-nail.—Dr. Pürckhauer recommends the following method in the treatment of ingrowing toe-nail : A forty per cent. solution of potassa is applied warm to the portion of the nail to be removed. After a few seconds the uppermost layer of the nail will be so soft that it can be scraped off with a piece of sharp-edged glass : the next layer is then moistened with the same solution and scraped off ; this must be repeated until the remaining portion is as thin as a sheet of paper, when it is seized with a pincette and lifted from the underlying soft parts and severed from the other half. The operation does not require more than half an hour's time, is painless and bloodless, while the patient is delivered from his suffering without being disabled even for an hour.—*The Pittsburg Medical Review.*

Cocoanut for Tapeworms.—A whole cocoanut grated fine and taken with its own milk, on an empty stomach, in the morning, has been said to cause the expulsion of tænia. This item appears periodically in the medical press, but we have never heard of an authentic case of relief by the measure suggested.

Pineapple Juice is said by someone to be of remarkable efficacy, internally and locally employed, in diphtheria. Perhaps it is.

For Vomiting in Pregnancy the painting of the cervix uteri with a solution of cocaine has been recommended.

Bananas in Chronic Bronchitis.—In cases of chronic bronchitis with difficult breathing and scanty expectoration the use of banana-juice has been highly praised. The juice is prepared by cutting up the bananas in small pieces and putting them, with plenty of sugar, in a closed glass jar. The latter is then placed in cold water, which is gradually made to boil. When the boiling-point is reached the process is complete. Of the sirup so made a teaspoonful every hour is the proper dose.

Wiring the Vertebræ.—Dr. B. E. Hadra, of Galveston, Tex., reports, in the *Times and Register* for May 23, 1891, a case of fracture of the neck in which immobilization was secured by wiring together the spinous processes of the sixth and seventh cervical vertebræ. The patient was not cured at the time of the report, yet the operation had seemingly proved the feasibility of the method in similar cases. Dr. Hadra suggests that the same procedure might be of great utility in cases of Pott's disease of the spine.

Sea-salt in Headache.—Dr. Leslie recommends nasal insufflations of sea-salt in neuralgic and other forms of cephalalgia.

Caffeine in Post-partum Hemorrhage.—Dr. Misrachi, of Salonica, writes, in the *Bulletin Général de Thérapeutique* of May 15, 1891, concerning the value of hypodermic injections of caffeine as an adjuvant to ergot in the treatment of post-partum hemorrhage. While the ergot acts upon the uterine muscle, stimulating it to contract, the caffeine tends to obviate the evil consequences of the hemorrhage, cerebral anæmia, cardiac weakness, etc. Of course no drugs will be of service when the hemorrhage proceeds from mechanical causes, such as retained portions of placenta and the like.

Inhalation for Acute Coryza.—Hayem has found relief, though seldom cure, follow inhalations of carbolic acid and ammonia. He recommends the following formula :

℞. Pure carbolic acid,
Water of ammonia.....āā ʒ j.
Alcohol ..... ʒ ij.
Distilled water ..... ʒ iij.
Sig. : Pour a few drops on thick blotting-paper and inhale the fumes for a few seconds.

Thymus Vulgaris in Whooping-cough.—Dr. A. Neovius reports, in the *Finska Läkaresällapets Handlingar* for March, 1891, very successful results obtained during an epidemic of pertussis by the exhibition of a syrup of garden thyme. He made a decoction of one part by weight, of sweet thyme in seven parts of water, to which was added five parts of sirup of althæa. Of this mixture, from a teaspoonful to a tablespoonful was given eight to ten times a day. The only unpleasant symptom caused by the drug was a slight diarrhœa in most cases. The relief afforded was prompt, the cough soon losing its spasmodic character, and assuming the form of a mild catarrhal bronchitis.

Charges against a Doctor.—The Consulting Board of Physicians of the Soldiers' Home at Noroton, Conn., has preferred charges against Superintendent and Resident Physician-in-Chief B. W. Munson, and forwarded them to Governor Bulkeley, with the recommendation that he be removed from the office of Physician-in-Chief. The testimony was to the effect that Dr. Munson is away from the Home a great deal, that he neglects his duty by failing to visit the wards as the rules prescribe, that he has refused to fill requisitions for medicines and other supplies, and that he neglects the patients.

New Instruments.

A NEW SPRAY TUBE.

SPECIALLY DESIGNED FOR THE APPLICATION OF MEDICATED OILS AND FATS TO ANY PART OF THE RESPIRATORY TRACT.

BY A. N. STROUSE, M.D.,

INSTRUCTOR IN OPHTHALMOLOGY, NEW YORK POLYCLINIC, ETC.

ON looking over the various vaseline and oil sprays I found that none of them could conveniently be connected with the compressed-air apparatus, and with this object in view I designed the appended spray tube.

The tube itself is but five inches in length, having a fine point drawn out only about one-half inch (instead of one inch or more, as is usual with the Sass tubes), thereby insuring strength and rendering it less liable to break.

The handle fits over the bayonet attachment, and is removable by unscrewing it one-half a turn, and thus it can rapidly be taken from one tube and put on to another, even while the tubes are in the spray-rack, one handle being sufficient for any number of tubes. The handle is set at an angle, overcoming some of the objections of application in stout persons.

In using vaseline or solid oils, or if it be desirable to warm solutions before applying them, one can readily see how nicely these may be heated, without burning or soiling the fingers, for we take them out of the rack by the handle and not by the tip. The spray thrown from this tube is very fine and light, and can be inhaled into any part of the respiratory tract. Tubes with an upward or downward tip can be made—and should be one inch longer—but are considered unnecessary, for it is soon evident that the spray, when blown through the nares or into the mouth, passes into the trachea without any inspiratory effort on the part of the patient, evidenced by a fine cloud coming from the patient's mouth on expiration. I now use these spray tubes for all medicated sprays in preference to others, as they are handier, there is less loss of liquid, and the hands are secure from staining.

For those who do not use the compressed-air apparatus Messrs. Reynders & Co., 303 Fourth Avenue, who have made the tubes for me, will furnish a double bulb with stop-cock attachment, and a stout covering over the receiving bulb, an instrument I have used for a number of years, and which has filled the place of the compressed-air apparatus admirably.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 28, 1891, to July 4, 1891.

" SKINNER, J. O., Assistant Surgeon. Upon the abandonment of Fort Davis, Tex., will proceed to Fort Clark, Tex., and there take station.

EWING, C. B., Assistant Surgeon. Granted leave of absence for one month.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July, 4 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	9	2
Scarlet fever	102	24
Cerebro-spinal meningitis	0	3
Measles	188	16
Diphtheria	56	21
Small-pox	0	0
Varicella	0	0
Pertussis	0	0
Erysipelas	0	0
Mumps	0	0
Rötheln	0	0

An Ounce of Prevention.—People are willing and eager to speak in warmest praise of the physician who has brought them safely through some awful crisis of disease; and rightly. But how seldom do they recognize or appreciate that greater skill which detects disease in its early stages, and so promptly and wisely treats it that the patient does not go down into the shadow of death, says the *Healthy Home*. The greatest skill is habitually displayed in treating the every-day ailments, so commonly regarded as trivial and unimportant; and almost every physician of large experience will tell you that much of his best work passes unrecognized and unthought of. Indeed, his greatest, many times his only, reward comes from the consciousness of a good work well done.

The Qualifications of a Physician in Olden Times.—A statute of Henry VII. ordains that the practice of the healing art shall be limited to those persons that be profound, sad, and discreet, grandly learned, and deeply studied in physic.

" We Get There Just the Same."—The world cannot have too much of good poetry, and we venture to quote some verses contributed to the *Hospital Gazette:*

Our lip we can't help curlin'
At the medical profesh:
Sure, there's Dr. Quack, of Berlin,
Always finding something fresh
To prevent mankind from croaking,
And to load himself with fame.
This is not a theme for joking,
But—we get there just the same.

. . . . . .

Here's a man has struck a plan, sirs—
So the daily papers say—
To prevent the growth of cancers,
And we only hope he may;
All the things they'll soon be healing
To which one can put a name—
Yet we're haunted by a feeling
That we'll get them just the same.

Oh, confound all foreign " masters "
With a secret to disclose!
We believe in mustard-plasters,
And put tallow on our nose.
Let the savants of Vienna
Spin their narratives so lame—
If we stick to salts and senna
We can get there just the same.

The von Reinecker Prize.—A prize of the value of $2,500, and a gold medal, has recently been established by Professor von Reinecker, of the University of Würzburg, to be awarded every three years to the author of the most important discovery in medicine during that period. The first prize has just been awarded to Koch.

The Wearer of Diamonds, according to Pliny, was secure against insanity.

Medical Record

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Original Articles.

THE CORRECTION OF ANGULAR DEFORMITIES OF THE NOSE BY A SUBCUTANEOUS OPERATION.[1]

BY JOHN O. ROE, M.D.,

ROCHESTER, N. Y.

AT a meeting of this Society four years ago I presented, as you may remember, a paper on "The Deformity termed Pug-nose, and its Correction by a Simple Operation."[2]

It is my purpose to describe to you, in this short paper, an operation for the correction of angular deformities of the nose by a subcutaneous operation. This is an operation for the correction of a condition directly opposite to that deformity which formed the subject of my previous paper, and is applicable not only to the correction of angular deformities of congenital origin, but to the deformities resulting from injuries as well.

In all surgical operations about the face, it is as necessary to avoid mutilation of the skin as to correct deformity, since in many instances an operation might otherwise simply result in exchanging a deformity for an unsightly blemish. It is for this reason that many deformities of the face, and particularly of the nose, are allowed to go uncorrected, which are a *marque de reconnaître* for every one who sees them, and a constant source of annoyance to the persons themselves.

In describing the technique of this operation I cannot make it more clear than by briefly reporting some cases in which I have performed the operation. Miss C——, aged twenty-five, consulted me for a "winter cough," which was giving her much concern. While she was under treatment she often referred to her nose, and complained about an angular, bony projection on its top that not only gave her nose an unsightly shape, but so pierced the skin as to make it painful for her to wash or wipe her face. She was quite desirous of getting rid of this annoying projection, but was afraid an operation might leave an unsightly scar. In order to avoid this possibility I suggested that the projection be removed by an incision from the inside of the nostril without wounding the skin, and this suggestion at once induced her to have the operation performed.

After anæsthetizing the part with cocaine, both by applying it to the interior of the nostril and by injecting some under the skin with a hypodermic syringe, I made a lineal incision completely through the upper wall of the left nostril, just in front of the nasal bone, between it and the upper lateral cartilage of the nostril, to the under side of the skin. This incision I widened laterally from the insertion of the upper border of the triangular cartilage half way down the side of the nose, until I had a sufficiently large opening to permit the introduction of instruments freely. I then raised the skin from the bridge of the nose over the region where the operation was to be performed. After the skin was sufficiently freed from the top of the nose I inserted a pair of angular bone-scissors and cut off the projecting piece of bone until the top of the nose was perfectly straight and smooth. The operation was done with the strictest antiseptic precautions, and after completion I blew in some iodoform powder, through the opening, over every portion of the wounded surface. The skin was then allowed to drop back upon the bridge of the nose, and, by strapping it down with gentle pressure, the wound healed without the slightest formation of pus, and there was very little soreness. There was no mutilation of the interior of the nose, for even directly after the operation it was difficult to detect, by simply inspecting the interior of the nose, the incision that had been made. In a few days the nose was entirely healed, and the soreness had disappeared when the patient left for her home. About six weeks afterward she wrote me that she was highly delighted with the result. She no longer had to be constantly on her guard lest she should allow something to come against her nose, and she said that it felt as if she could beat it against a stone wall without hurting it.

FIG. 1.

FIG. 2.

Figs. 1 and 2 represent the appearance of the nose from photographs taken before and after the performance of the operation.

The second case was that of a young lady on whose nose I operated for a similar deformity, and in the same manner, and with a like excellent result. See Figs. 3 and 4,

[1] Read before the Medical Society of the State of New York, February 6, 1891.

[2] MEDICAL RECORD, June 4, 1887.

which are also from photographs taken before and after the operation.

The third case, an exceedingly interesting one, was for the correction of a deformity, resulting from an injury, the details of which are as follows: Mr. M——, a gentleman residing in a neighboring city, was out one day on horseback. His horse, being very spirited, sud-

FIG. 3.

FIG. 4.

denly shied at a piece of paper flying in the street and threw him violently to the ground, directly under the horse's feet. The horse at the same time struck him with a shoe cork of one of its forefeet, directly in the centre of the top of his nose, producing a very severe fracture. His family physician, who was an excellent surgeon, was at once called. He found the nose so badly broken up that portions of the nasal bones were lying loose in the gaping wound. These he picked out, and after thoroughly cleansing the wound, brought the different portions of the lacerated skin together as well as possible, and carefully applied an antiseptic dressing. The following day the doctor telegraphed me to come and see the patient. I found the nose in as good shape as circumstances would permit. The vomer was, however, broken and crowded out of place. The swelling of the nose and face was by this time so great that it was not advisable to attempt any active interference lest it should prevent or disturb the healing of the lacerated skin.

FIG. 5.

FIG. 6.

In about five days the swelling had so much subsided that the real condition of the nose was apparent, and he then came to Rochester for further treatment. The septum was put in place, and held there by means of metallic splints wound with cotton; but it soon became apparent that the support to the bridge of the nose was so completely undermined, the lower portion of the nasal bones being destroyed, that the nose was quite sure to fall in, unless proper support could be applied at the right spot from the inside. The plan of transfixing the nose with pins to hold it up in place could be of no avail in this case, so the following plan was resorted to: A piece of brass spring wire was bent to form a spiral spring as shown in the illustration (Fig. 7). One arm was bent to lie along the floor of the nose; the other was bent to fit under the bridge of the nose. These arms were covered with snugly fitting rubber tubing, so as to make them soft and to prevent erosion. The arms were bent together before insertion, but when allowed to open they exerted an upward pressure, with the floor of the nose for the fulcrum or support. One of these springs was inserted into each nostril. This plan worked admirably. It kept the bridge of the nose elevated as high as the amount of tissue left would permit until the broken septum had become firm and the other parts healed so that the nose was self supporting.

This patient, before the accident, had a fine Grecian nose, but the loss of a large portion of the nasal bones converted it into *le nez retroussé*. The nose was, however, rendered very unsightly and conspicuous by the angular projection of the stumps of the nasal bones, where they were broken by the horse's shoe.

The operation for the removal of this projection was deferred for several months, in order that the nose might become thoroughly healed and firmly fixed in position.

On June last, the operation for the removal of this projection was made. As an impediment to the operation, however, there was the scar in the skin that had become firmly adherent to the bone at the seat of the injury. This was thought to be an insurmount-

able obstacle to the success of my proposed operation.

I made an incision, similar to that described in the previous case, through the upper wall of the nose from the inside, to the under side of the skin; then, with a very delicate knife, having a round, slender shank, I very carefully dissected this adherent skin from the bone, without cutting through the skin at any point. After the skin was raised from every portion to which it had become adherent, and also from that portion which was to be removed, I cut and drilled away the bone down as far as desired. The operation was done antiseptically, so that no inflam-

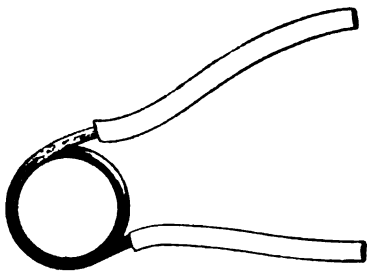

FIG. 7.

matory trouble followed, and the result was satisfactory in the highest degree. The skin has remained free and movable over the bone, and the scar of the skin is scarcely visible. The use of cocaine locally to the nostril and injected under the skin rendered the operation quite painless.

The patient, as you will observe by the cut (Fig. 6), which is from a photograph recently taken, has a very presentable nose, quite as good as could be hoped after so severe an injury. Fig. 5 represents the appearance of the nose before the operation.

Since the above-described operation was performed I have operated on two patients for angular deformity of the nose, with most excellent results in both cases. In one case the deformity was congenital; in the other it was the result of an injury incurred when the patient was quite young.

For the performance of this operation the application of cocaine to the interior of the nose, and injected under the skin is, in nearly all cases, sufficient to render the operation quite painless, although general anæsthesia can be employed should it for any reason be necessary.

This operation is readily seen to be of great value in the correction of all kinds of angular deformities of the nose, from whatever cause, since it avoids all necessity of wounding the skin, and no after-treatment is required, other than the use, for a short time, of a light compress or bandage over the seat of the operation.

ONE THOUSAND CASES OF OCULAR HEADACHES AND THE DIFFERENT STATES OF REFRACTION CONNECTED THEREWITH.

BY W. F. MITTENDORF, M.D.,

NEW YORK.

THERE is hardly a subject in medicine that has received more attention of late than the effect of eye-strain upon the nervous system, and especially its connection with headache.

This same subject has been known and spoken of by ophthalmologists as asthenopia for many years. At first, as early as fifty years ago, it was thought to be almost entirely due to fatigue of the external muscles of the eye, and this view has been more recently brought forward again with much enthusiasm.

However, since Donders's publications on the subject, errors of refraction have been recognized as the main cause of the long list of complaints known under the same name of asthenopia. Of all the symptoms of this condition headache is the most prominent and the one most frequently met with. So many papers on ocular headaches have been published of late, that every practitioner begins to appreciate the value of correcting-glasses; but even now patients are dosed with medicines and treated for indigestion or malaria for a long time before an examination of the eyes will reveal the true cause of the affliction.

The object of this paper is principally to point out the frequency of certain errors of refraction met with in these cases, and to endorse the views of such writers as Drs. Roosa, of New York; Javal, of Paris; Chisholm, of Baltimore, and many others, to the effect that the external muscles of the eye play a very insignificant rôle in the causation of headaches, in comparison with errors of refraction, and chief among these, "astigmatism."

The number of cases of ocular headache which have come to my office for treatment has been so large that I have been able to select a thousand which were not only due to eye-strain, but were more or less completely relieved by the proper glasses, in only a little more than the last two years.

In our hospitals and dispensaries cases of this kind are not so frequently met with as in private practice, as patients visiting these institutions are not so apt to use their eyes so much for reading and studying as private patients do. Among my patients the number of school-children and college-students has been unusually large, likewise that of ladies who had little or no out-door exercise, and whose muscular system was, as a rule, not as well developed, as it would have been had they had more of this kind of exercise. In speaking of the muscular system I do not refer exclusively to the external muscles of the eye, but more to the general system, as it is my experience that the muscles of the eyes, especially the all-important ciliary muscles, are more or less in harmony with the other muscles of the body, and I am therefore very careful in the treatment of my patients to lay a great deal of stress upon the usefulness and importance of gymnastic exercise. I have had more young patients complaining about their eyes who did not have a chance to enjoy the benefits of a regular gymnastic training than those visiting schools where a daily attendance at the gymnasium was required, or who belonged to some regular athletic team.

A number of these patients would be entirely free of headaches and lay aside their glasses as soon as they were able to devote a good deal of time to gymnastic sports, but were obliged to use glasses or suffer from headaches when their school work kept them confined to their books. It is a well-known fact that many people with well marked errors of refraction, especially such as hypermetropia and astigmatism, will go through life and not experience the slightest inconvenience therefrom; but if from some cause or another their health becomes impaired or they abuse their eyes, asthenopic troubles are liable to come on and may become so marked as to unfit them for business or to force them to leave school or college, and to make their life miserable otherwise. In some cases the distress is so great and continues for such a length of time that a few of my patients told me that they had thought seriously of committing suicide if their troubles could not have been relieved.

The errors of refraction of the one thousand cases were as follows:

Myopia, 20, or two per cent.; myopia and astigmatism, 8, or about one per cent.

Simple myopic astigmatism, 111, or eleven per cent. Of these 60 were of 0.5 D., and 5 were of 0.25 D.

Hypermetropia, 78, or eight per cent.; hypermetropia with presbyopia, 35, or three and a half per cent.; hypermetropia with astigmatism, 67, or seven per cent.

Simple hypermetropic astigmatism, 626, or nearly two-thirds. Of these 116 required more than 0,5 D., 230 required a 0.5 D., 261 required only a 0.25 D. cylindrical lens.

Anisometropia, 27, nearly three per cent.

Mixed astigmatism, 21, or two per cent.

Emmetropia with muscular faults, 7, or hardly one per cent.

To recapitulate: Myopia furnished two per cent. Hypermetropia (including some cases with existing presbyopia) eleven per cent.

Astigmatism of all kinds, eighty-three per cent. Of these 119 were myopic, and nearly 700 were cases of hypermetropic astigmatism.

Of patients requiring a cylindrical lens of one-half or one-quarter of a diopter, we have 60 of the former and 5 of the latter in myopic astigmatism, and 230 of the first, and the great number of 261 cases of the second, in the hypermetropic variety. The axis of the cylinder in the weaker glasses in hypermetropia was as follows:

Axis at 90°, or nearly so, 418 times; axis oblique in 40 cases, and at 180° only 33 times. In myopic astigmatism axis at 180°, 80 cases; at 90°, 21 cases; and oblique, 10 cases.

In hypermetropic astigmatism the axis was most frequently perpendicular, or at 90°; in the myopic variety horizontal, or at 180°.

In the seven emmetropic cases the asthenopia was due to an anomaly of the muscular apparatus, which called for the use of prisms or for operative interference. This number, however, does not include the cases of squint which presented themselves for operative interference.

The eyes of the patients were all perfectly healthy in every other respect.

It is impossible to go into the details of many of these cases, although there are a great number of them not only of great interest but also of some importance. The great frequency of astigmatism is very apparent, and greater in proportion than in any number of cases that I have seen reported. This is probably due to the fact that I have employed so many weak cylinders. But it is just among these cases that the most distressing symptoms have been met with, and many patients with headaches—frontal, supraorbital, temporal or occipital, the pain extending often from the back of the head along the spinal column—disturbance of the stomach, producing at times nausea and even vomiting, pain extending even to the limbs, twitching of eyelids, distressing nictitation and even choreic movements of the face, depression bordering on melancholia, and other troubles which are usually classed as general nervousness and which had baffled the skill of the family physicians, were often promptly relieved by a weak correcting cylindrical lens.

Many of the patients with the lesser degrees of astigmatism could hardly believe that their eyes were at fault, and would frequently begin by saying that their family physician must be mistaken to send them to an oculist; they were sure their eyes were so perfect that they could not be the cause of the distressing headache they had for such a long time. This belief of astigmatics that their eyes are perfect is due to the fact that in most of the cases of the lesser degrees of astigmatism the patients have perfectly normal vision for the distance, and they can often use their eyes for near work for a long while without feeling any unpleasant symptoms at the time, the pains coming on some time after using the eyes, or perhaps only the next morning, or even only the latter part of the week, and not unfrequently only on Sunday mornings; this is apt to be the case in conscientious housekeepers, who work so hard during the preceding Saturday preparing everything for Sunday, that the eyes as well as the rest of the body get thoroughly fatigued. I have had quite a number of cases of this kind, where a cylindrical glass led to the cure or to the prevention of Sunday morning headaches, which had existed regularly for many years and which had been ascribed to some obscure malarial influence.

On the other hand, we meet with similar cases of astigmatism of perhaps a half or a quarter of a diopter only, where the eye symptoms are quite marked and come on immediately after the least effort to use the eye for reading or writing. I remember, for instance, the case of a lady who could do light housework all day and feel comfortable, but if she attempted to read even a short letter, she would at once get a violent headache, and it would take her a week or more to finish writing a letter. She could write only a few words at a time, when she had to stop on account of pains and feel tired as if she had done a good day's work.

A unique case is that of a lady in Rochester, who could not read or write, nor go to receptions or theatres without paying dearly for it. She had her eyes examined several times, had been under the care of a gynecologist, and it was under protest that she entered my office. She had perfectly normal vision of each eye, a perfect nerve and fairly proportioned muscles, the internal recti overcoming a prism of 18°, and the external recti one of 7°. She refused all glasses with the exception of a cylinder + 0.25, which not only rested her eyes for the distance, but enabled her likewise to read the fine print of a newspaper for fifteen minutes at her first visit. Several weeks after her return home she wrote me a very pleasant letter with the news that she had had only one slight attack of headache, which came on after addressing over three hundred invitations in one afternoon. She could go out as much as she wanted to without any trouble, and was only surprised that so weak a glass could give her such comfort. This was nearly eighteen months ago, and lately she informed me that she had become more and more independent of her glasses, and used them only when she was going to have a good long read.

Another class of cases are met with in students, where the symptoms are so distressing that they often have to leave college for a long time. During the time that I was connected with the Bellevue Hospital Medical College I would frequently have as many as half a dozen of the students, during a term, suffering from very intense asthenopic symptoms, which were often relieved by a correcting cylindrical lens of one-half or a quarter of a diopter. The appearance of the asthenopia in these cases is easily explained by the fact, that many of the students are young men from the West or South, who after living most of the time in the open air suddenly change their entire way of living; boarding in a cheap, city boarding-house, they spend most of their time in poorly ventilated lecture-rooms, and their evenings in poorly illuminated rooms over their books. This lowers their muscular power sufficiently to interfere with their power of accommodation, and a small amount of astigmatism, which gave them no trouble whatever before, because their accommodation easily overcame it, becomes now a source of much distress.

Still another group of cases of this kind which I have often met with are those in which excitement in conjunction with unusual fatigue of the body brings on headache, which, after all, is only due to irregular action of accommodation in astigmatic eyes. Some persons, especially ladies, are apt to get these headaches after shopping expeditions, or after balls and receptions, where they have to remain standing sometimes for hours.

It appears that astigmatism of even a slight degree leads at times to such distressing asthenopic symptoms on account of the irregular action of the ciliary muscle required for its correction, which is more fatiguing and irritating than a much greater but evenly exerted effort of this muscle, and partly because on account of the slight amount of disturbance produced at the time the effort is persisted in for a long while, thus giving the irritation ample opportunity to affect many nerves, in fact not infrequently the entire nervous system, and possibly even the vaso-motor nerves, giving thus rise to disturbance of circulation and hyperæmia of the retina and optic disc. As a rule the irritation remains peripheral, for I have not met with, nor heard of a case where other nerves of cranial origin (such as the auditory, olfactory, or facial nerves) became involved, with the exception of those nerves more or less connected with accommodation and convergence.

The diagnosis of the smaller degrees of astigmatism is not always easy. The ophtholmoscope is always the most reliable means at our disposal, and although it may not be possible to come within a quarter of a diopter of ametropia, yet it furnishes us usually the proof that the degree of irregularity does not exceed one diopter of either hypermetropia or myopia of the one meridian from that of the opposite. This is very important, for I firmly believe that in astigmatism of less than one diopter atropine should never be used, as it is not only misleading, but subjects the patient to unnecessary trouble and often great loss of valuable time.

It is often possible to prove the existence of even a quarter of a diopter of astigmatism by throwing the image of the fundus slightly out of focus by using a convex lens of a half or one diopter in the ophthalmoscope. By this manœuvre the emetropic meridian will be quite blurred, but that of the other one will be much clearer and distinct, at least so much so, that the existence of astigmatism is proven. In myopic astigmatism the reverse, a concave lens should be used in the ophthalmoscope, when the greater distinctness of the previously slightly indistinct myopic meridian will help us greatly in our diagnosis.

Atropine should only be resorted to in higher degrees of astigmatism, especially if the visual power cannot be brought up to the normal standard by glasses or if there is much spasm of accommodation present. In the lesser degrees of astigmatism it should never be used, as the results obtained are apt to be misleading, and I have often found that not only the strength but even the axis of the cylinder, determined under atropine, will not be accepted by the patient after the effects of the mydriatic have disappeared. This is not hard to explain, when we consider that an immensely dilated pupil may reveal irregularities of the more peripheral parts of the cornea which with a normal pupil are entirely excluded, and consequently are of no importance whatever. Neither can we rely absolutely on the radiating lines of astigmatic test-types, as they may appear perfectly distinct in all directions to the astigmatic eye, if there is only a slight degree of change of the normal curvature, which is fully corrected by the action of the muscle of accommodation. Sometimes it becomes possible to demonstrate astigmatism even in these cases if we release the extra strain of the accommodation by placing a convex lens of one or one and a half diopter power before the eye, when the patient will at once point out the lines remaining distinct and those that appear blurred.

I cannot emphasize the importance of looking for very slight degrees of astigmatism in connection with asthenopic complaints too much, for although a number of writers have recorded their experience in this respect, there is hardly a textbook on ophthalmology in existence, which recognizes this fact, and even in one of the most recent and most complete works of this kind, namely, that of Dr. H. D. Noyes, of this city, the author uses this expression, that even slight degrees of astigmatism of one-half of a diopter must not be neglected. The existence and great importance of only a quarter of a diopter of astigmatism is not mentioned at all, and yet it is this weak cylindrical glass of 0.25 D. which has been of such great service to me.

In some of my cases there may have been a little more of astigmatism than was represented by such a lens, but it evidently served to relieve that amount of extra strain placed upon the ciliary muscle, which had given rise to all the unpleasant symptoms of reflex irritation which the patient had complained of.

These very slight amounts of irregularity are not easily discovered by the retinoscopic tests, and only by a very experienced observer are they determined on Javal's ophthalmometer. Even the ophthalmoscope presents some difficulties in this respect, and it is principally the use of cylindrical lenses and the test-types that we have to rely on. There are usually some letters which have a similar shape such as O. C. G. and D. or B. and R. and F. and P. and T., and which present to the astigmatic eye some difficulties to recognize them from a distance of twenty feet or more in some cases. If these letters are not readily recognized with the naked eye, but promptly after the cylindrical lens has been held before it, and if, after changing the axis in various directions, the same axis is constantly preferred, we may be sure to have a case of astigmatism to deal with, and if all stronger convex, or in myopic astigmatism all weaker lenses are refused, the degree of the refractive error is determined at the same time. If the patient can use such a glass with perfect ease and comfort, for near as well as for distant objects, we are justified in ordering them, provided the ophthalmoscopic examination does not show any conflicting evidence.

In the treatment of these cases I do not confine myself to the selection of proper glasses, but pay great attention to the mode of living of the patient. Normal circulation and a proper amount of outdoor exercise exert a very beneficial effect upon patients who are often very nervous and not unfrequently very despondent and quite unhappy. There is, as a rule, no better auxiliary remedy than a proper amount of gymnastic exercise, and I firmly believe that were it not for the athletic societies at our colleges, the number of asthenopic patients would be much greater than what it is now. Ladies especially are often greatly in need of some regular gymnastic exercise. Of these fencing, boxing, and horseback-riding, especially the two former, are to be recommended, because in these the muscles of the upper part of the body are better trained, and even the muscles of the eyes are given healthy exercise in watching the opponent.

A great favorite remedy of mine is a stimulating lotion applied to the closed lids and forehead. This lotion is composed of lavender, rosemary, camphor, and alcohol, and acts as a mild counter-irritant. Conjunctival complications should be treated by applications of mild solutions of alum or acetate of zinc, or the biborate of soda. Attacks of intense pains may have to be relieved by proper doses of aconitia or phenacetin; in milder cases electricity acts sometimes very nicely, and not unfrequently the use of a general tonic treatment is indicated, of which, of course, the family physician is the best judge.

In conclusion I would like to state that, according to my experience, ocular headaches and other asthenopic symptoms are much more frequently, in fact, almost universally, due to fatigue of the internal, and not to irregularities of the external, muscles of the eye; although the latter may accompany or be the result of the errors of refraction. That for this reason a more careful inquiry into the lesser degrees of refractive errors and their correction is of the greatest importance; and that if this is done very few cases will remain where the use of prisms or cutting of the external muscles is indicated or needed. In fact, many a time have I had occasion to discard prisms, which had been prescribed, and substitute weak cylindrical lenses for them with the most gratifying results. The same experience I have had likewise with patients that had their eye-muscles cut, often repeatedly, and who came to me for the reason that more operative interference had been declared necessary.

Furthermore, I have to add that the use of the weaker cylindrical lenses need not always be a permanent one, that they can be dispensed with after the tone of the ciliary muscle has been restored; and especially that it will not always be necessary to wear such glasses constantly, that is, for near and far objects; but that the eyes should never be used without them for near work until all the asthenopic symptoms have disappeared.

140 Madison Avenue.

Cæsarean Section should always take the place of embryotomy on the living fœtus, according to many modern gynecologists.

TREATMENT OF THE VARIOUS FORMS OF PULMONARY CONSUMPTION BY INOCULATION WITH VACCINE LYMPH.[1]

By J. HILGARD TYNDALE, M.D.,

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A COMBINATION of pathological processes, which, alone or combined, lead up to a more or less active destruction of lung-tissue, and finally of life itself, is known to us under the comprehensive name of pulmonary consumption. These processes consist of: 1. The proliferation and subsequent contraction of connective tissue, met with in the lungs in the form of chronic peribronchitis with emphysema, a fibroid process, otherwise known as chronic interstitial pneumonia and as cirrhosis of lung-tissue; in the pleura by chronic adhesions leading to mechanical hindrance of the respiration and its consequences. Among the causes of these adhesive and shrinking tendencies the rheumatic diathesis plays a most important part. 2. The accumulation of mucus, pus, and cast-off epithelium in the bronchioli, followed by their incapsulation in greater or lesser foci—so-called cheesy infiltration. Imperfect incapsulation of these products, aided by a more than mere temporary disturbance of the general nutrition, leads up to that most active of all destructive processes, namely: 3. The invasion of the tubercular bacillus. Really active destruction begins with the advent, proliferation, and dissemination of the bacillus. No other agency does lead to active destruction, a rapid downward course being due entirely to the local devastation or through a more general infection by the tubercle bacillus. Even in that most slowly progressive form of lung trouble, the connective-tissue processes, a sudden and rapid finale is precipitated by invasion of the bacillus.

We now come to points in physical diagnosis. No matter what line of therapeutics may be adopted, the main point is, and ever will be, a correct diagnosis of the existing condition. I could readily write a whole chapter on this question alone, but have already endeavored to do so in my paper, "A Plea for Physical Diagnosis."[2] To be skilful in physical diagnosis you must be able to size up each individual case in its totality. This includes the anatomical sufficiency and physiological expansive capacity of the thorax and the rapidity and rhythm of the heart's action. The secret of diagnosis lies in a discriminating comparison between the local and general condition of the patient. In gauging the local condition it is our duty to find out to what extent the lung territory has been permanently encroached upon, either by excavation or shrinkage; the extent of mechanical hindrance to respiration on account of fixedness of the bony thorax or pleural adhesions on the one hand, or defects in the upper air-passages—nose, pharynx, larynx—on the other, or, to reverse the above statement, we must find out if there is enough lung-substance left to carry on a proper oxygenation of the blood.

In gauging the general condition, the presence and the immediate or remote danger of a wholesale bacillus invasion is the most important point. The fat and blood formation of the patient next claims attention, together with his ability to digest food.

Having a clear picture of the local destructive process, as well as the impairment of the general nutrition, treatment should be begun in accordance to which of the two predominates as a destructive element. For, as we all know, there may be, roughly speaking, four kinds of cases:

1. Cases in which the general condition is good and the local destruction incipient, strictly localized, and just beginning to be active.

2. Cases in which the general condition is below par and the local incipient as above. These cases are very common and too frequently made light of.

3. Cases in which the constitutional impairment is grave and local destruction somewhat advanced and disposed to be active.

4. Cases in which the local lesion is quite extensive, but not active (dry cavities and shrunken infiltrations), and the general condition reasonably good.

Let this maxim be a guide: Each case is a law unto itself. You must form for yourself an exact mental picture of the individual case before you; not of the name of the disease, but of the condition. I quote from my late friend, Dr. Buren, of Philadelphia: "Bear in mind that auscultation is a study based on the comparative examination of the two sides of the chest in each individual case; since the quality and pitch of each person's respiratory murmur is a law unto itself." The great trouble is that the mathematicians in medicine speak of many-sided facts as if they were figures in arithmetic. As I said before, every case is a law unto itself, more especially as far as therapeutics are concerned.

Again, the presence of fine crackling or other moist râles merely indicates associated bronchial catarrh (chronic phthisis). Localization and persistence in connection with physical signs alone stamps their importance.

Another much misunderstood auscultatory sound is tubular breathing, notably at the apex. If percussion does not reveal more or less decided dulness at these points, our attention should at once be directed to mechanical hindrances to respiration in the shape of pleuritic adhesions. The importance of binding down of lung-tissue by interpleural plastic exudation has been dwelt upon by Dr. James R. Leaming, of this city, in a number of monographs. Dr. Leaming has shown that hindrance to respiration, to the entrance of air into some section of vesicular lung structure, are of the first importance, and not to be at all times looked upon as a mere accompanying lesion of an advancing lung process. No one can claim to be a physical diagnostician who will not, before entering into local details of auscultation, determine whether the case be: First, one of condensation of lung-tissue, either by a filling up process (cheesy infiltration), or of compression by connective tissue, or of both elements combined; second, one of mechanical hindrance to vesicular respiration by pleuritic adhesions, notably along the lower border of the lung, third, the combination of both of the above, when it becomes a matter of judgment whether the lung should be freed from its binding element first, or treatment of the general condition entered upon at once, or both therapeutical measures be combined.

Right here I wish to draw attention to one of the most formidable combinations of the infiltrating process with the binding down by pleuritic adhesions. I refer to cases in which the patient usually is in a very fair general condition, but where auscultation reveals what is known as "leathery creaking" along the inner edge and over the centre of the scapula, notably the right one. Not only are the adhesions in such cases firm and unyielding, but are associated with tubercular infiltration below them and frequently the immediate cause of hæmoptysis. Here is a field for some one to find a solvent for this dense connective-tissue process, which by firm compression leads to condensation of vesicular lung structure and the formation of tubercular foci.

Let me now present my method. It consists of:

I. Exact and localized diagnosis. No case of pure connective-tissue proliferation, nor of general or localized cirrhosis of the lung-tissue—in other words, peribronchitis; nor case of pure mechanical disturbances of respiration caused by the binding down of lung-tissue by pleuritic adhesions; nor such cases in which diffused dry sibilant râles, heard all over the chest, point distinctly to obstruction in the upper air-passages (notably the nose), a mistake in diagnosis of every-day occurrence.

[1] Read before the New York County Medical Association, March 16, 1891. Followed by presentation of nine cases.

[2] Boston Medical and Surgical Journal, December, 1890.

The cases to be selected for inoculation are more or less active cavities and infiltrations with suppurative expectoration, with or without the presence of the bacillus, coupled to a not hopelessly impaired general nutrition.

II. The substance used for inoculation is the pure vaccine lymph obtained from the cow. This comes in capillary tubes containing about two drops. As a solvent I use simply fifteen drops of distilled water, to which is added one drop of pure glycerine. The fluid is injected subcutaneously near the seat of trouble. An ordinary hypodermic syringe is used and afterward cleansed by hot water and absolute alcohol. One capillary tube is used for one injection. At the third and fourth injection I have frequently used two tubes. Once in from six to eight days is sufficient. When the bacilli have disappeared, and the expectoration is sparse and of a mucous character, I inject once in two, three, or four weeks. No active reaction follows the injection. The temperature rises from one to two degrees in from eight to twenty hours after the injection and slight frontal headache is experienced. No abscesses form at the seat of injection.

As we all know, the actual losses from the body, if I may be permitted to call them so, to the consumptive patient may be summed up as follows:

1. Fever—a high temperature.
2. Expectoration—important as to its quality and quantity.
3. Night-sweats.
4. Loss of appetite.
5. Loss of muscular strength.
6. Diarrhœa.
7. Cough—as a peripheral irritation and consequent loss of sleep.
8. Feebleness and rapidity of the heart's action, leading to gradual exhaustion of the heart's muscle.
9. Fluor albus in women.

All of these manifestations are favorably influenced by the inoculation, some at once, others more gradually. Right here let me urge upon you the importance of persisting in the treatment. Even if the results are small in the beginning, a point will quite suddenly be reached at which the scale turns in favor of recovery.

III. Blood and fat formation. This line of treatment should be inaugurated at the earliest possible moment.

IV. Lung gymnastics. They consist of five deep inspirations every twenty minutes throughout the day.

V. The removal of obstructions or of causes of irritation in the upper air-passages. This should be done as soon as the patient is beginning to pick up. I know of nothing in diagnosis and therapeutics of lung diseases so often and shamefully neglected as this attention to the upper air-passages.

So far the remedy and the method. Before presenting my cases, let me say one word regarding the present advanced stand-point in our treatment of pulmonary consumption. Let all symptomatic treatment be abolished, except in case of great urgency for temporary relief. All supporting treatment, diet, cod liver oil, iron, malt, arsenic, corrosive sublimate, and the hypophosphites, have my endorsement, provided only they are not indiscriminately prescribed, but made to fit the individual case.

I desire to lay particular stress upon one point: We are now reasonably successful in treating connective tissue processes, equally so in the clearing up of cheesy infiltrations, even in which this clearing up does not result in a restitutio ad integram, but in leaving us in the presence of one or more cavities. When we come to deal with the presence of the bacillus, the question is whether these invaders are as yet localized—confined to their original habitation in an infiltration—or diffused; in other words, whether they have gone on a wholesale emigration throughout the lung substance. And right here is the present limit of our therapeutical possibilities. We may successfully eliminate local tuberculosis, but thus far the line is drawn at general dissemination of bacilli throughout the lung, usually manifested by a general bronchiolitis

It is evident to my mind that in the inoculation of animal virus, or intensely poisonous chemical compounds in very minute doses, we are now on the right track. We now have Koch's tuberculin, Liebreich's cantharidate of potash, Dr. J. Blake White's chloride of gold and manganese, and the bovine vaccine virus. Hypodermic injection appears to be the accepted method of introduction of these remedies. This is not the time to speak of their action—whether they kill bacilli, deprive them of their nutritive ground by more or less active serous exudation and casting-off of necrosed tissue, or whether they act as cell-supporters; or, again, by substituting one virus for another, thereby giving the system time to recuperate. For the present these are idle speculations. My own belief is that more than one animal and chemical virus will be found to accomplish the same object and that the secret of the whole matter lies in a correct diagnosis and the adaptation of the remedy to the individual case. Let exact mathematics in therapeutics be abolished.

LINEAR CRANIOTOMY FOR DEFECTIVE MENTAL DEVELOPMENT.

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When a new procedure is suggested for the relief of any affection, it is desirable that all cases subjected to it should be placed on record, in order that its advantages and disadvantages may be learned and its limitations speedily fixed. It is with this thought in view that the subjoined case is reported.

August 30, 1888, I delivered Mrs. L——, aged eighteen years, of her first child. The presentation was occipito-posterior, the occiput rotating into the hollow of the sacrum. Delivery was accomplished with the forceps after moderately prolonged effort. The child was a large male and had apparently suffered no harm. There was no depression of the skull or other sign of injurious compression. Two days later, however, a spot of sloughing skin appeared, just posterior to the angular process of the left frontal bone, leaving an ulcer one inch in diameter, which after a time cicatrized. The child developed physically fairly well, but it was observed as he grew older that he was not as bright as other children. He did not try to talk, nor did he make any attempt to stand or walk. He could not comprehend what was said to him.

In reference to family history it may be said that the father is twenty-three years of age, temperate and healthy mentally and physically. The same is true of the mother. On neither the paternal nor the maternal side is there any known tendency to mental disease or deficiency. There have been two children born since the birth of the subject of this paper. One is now eighteen months of age and perfectly normal in all respects, is bright, talks and runs around; the other is three months of age and its mental condition is apparently normal.

November 29, 1890, Dr. W. W. Keen published[1] the report of his first case of "Craniectomy for Microcephalus," giving an abstract of the cases of Lannelongue. I at once suggested the operation to the parents of this child, calling attention to the possibility of improvement and explaining the dangers of the procedure. The operation was accepted, but its performance postponed on account of the fact that the mother was nearing the end of her third pregnancy and it was thought advisable to wait until this was completed. The parents were urged in the meantime to try to teach the child to walk and to talk. During the next four months the child was under constant observation and every effort was made to improve its condition, but no effect could be observed.

The condition of the child at the time of the operation was as follows: M. L——, male, aged two years and five months; height, 32 inches; length of right leg, 15¾ inches; length of left leg, 15⅝ inches, a difference of ⅛ of an inch;

[1] Medical News.

circumference at middle of thighs, 8½ inches. The measurements of the head were—occipito-frontal circumference, 18½ inches; semi-circumferences from one external auditory meatus to the other, 12 inches; antero-posterior diameter, 6½ inches; bi-parietal diameter, 4¾ inches; bi-frontal diameter, 3⅞ inches.

He is able to sit alone, but cannot stand. He moves from one place to another by sliding on his buttocks. There is some contraction of the gastrocnemii muscles, so that when he is supported on his feet the body is thrown backward. The grasp of the two hands is equal and strong. The right patellar reflex seems absent, the left is normal. There is no apparent paresis or paralysis of the muscles of the legs. He is unable to talk. He can utter a few words. "Bert," "baby," "six," and "seven" is the extent of his vocabulary, and it is seldom that he can be induced to say even these. He cannot understand what is said to him. His only means of indicating that he wants something is by crying, and it is only by offering him various articles that it can be determined what he desires. His attention can be gained with difficulty and when gained, can be held but for a moment. He does not show that he understands when his name is called. Almost every day he has, without apparent cause, spells of crying without tears, which will continue for two or three hours. When pleased he will show it by a broad, idiotic smile. He eats fairly well and is well nourished. There is no incontinence of bladder or bowels.

The operation was performed April 17, 1891, with the assistance of Dr. H. A. P. Neel and Dr. E. E. Keiser. Ether was administered and the head shaved and then washed with soap and water followed by ether and bichloride of mercury (1 to 2,000) solution; antiseptic precautions were practised throughout the operation. An incision was made through the scalp, beginning at the line of the hair, two inches above the superior edge of the left orbit, and extending backward eight inches parallel with the median line, and three-fourths of an inch distant from it. Bleeding was controlled by hæmostatic forceps. During the early part of the operation a rubber tube was placed around the head to prevent bleeding, but it was found unnecessary and was laid aside. A one-half inch trephine was applied at the anterior angle of the wound, its centre being three-fourths of an inch from the median line, being so placed that the section in the bone would not correspond with the incision in the scalp. The button of bone removed was one-sixteenth of an inch in thickness. With the rongeur forceps, as modified by Dr. W. W. Keen, a strip of the skull three-eighths of an inch wide was removed, beginning at the trephine opening and extending backward seven inches, parallel with the median line and one-half inch distant from it. The posterior extremity of the bone section was one inch anterior to the extremity of the skin incision. The dura mater appeared healthy and was not markedly adherent. Bleeding from the bone stopped spontaneously, and no ligatures were required for the scalp vessels. The wound was thoroughly cleansed and united by numerous silk sutures. A few strands of catgut were placed at each extremity of the wound for drainage and a moist bichloride dressing applied.

During the next few hours vomiting occurred and was frequently repeated. There was considerable restlessness through the night and the child kept up a constant kicking movement. Fluid extract of ergot and camphorated tincture of opium were given in small doses, frequently repeated, but with little effect. The kicking movement continued during the next day (April 18th), and bromide of potassium was substituted for the ergot and opium. The temperature now began to rise, so that by evening it had reached 103° F. There was no vomiting and no apparent pain. Calomel was given to open the bowels, and three grains of antipyrine were given at 7 P.M., and the dose repeated at 10 P.M.

The following day (April 19th), the temperature in the morning was 99° F., and he had slept well during the night. His father stated that on being asked if his medicine were good, the child had uttered an emphatic "no," a word that he had never been heard to utter. During the day he rested well, but by evening the temperature had reached 101.5° F. The dressing was now removed for the first time, and it was found that the incision had united by first intention throughout its extent, with the exception of the points at which the catgut emerged. This had, however, failed to act as a drain, and the scalp over the section in the skull was bulging. The catgut was removed and there was a free discharge of serum, with some pus, from the posterior opening. A short rubber drainage-tube was introduced, and as the incision had been extended over the sound bone, its inner end did not come in contact with the dura. The wound was redressed with iodoform and bichloride gauze. It is probable that the kicking movements noted above were due to irritation of the leg-centres caused by the presence of the effusion. From this time, the course was uneventful, the discharge rapidly diminished, union became firm and by May 1st, two weeks after the operation, the wound was healed.

Signs of improvement in the mental condition were noted within a week after the operation, principally in the fact that his attention could readily be gained and held. When spoken to he would look toward the speaker and follow him with his eyes. The father's statement that the boy had said "no," a word he had never been heard to use, less than two days after the operation, has been noted. At the time this was considered rather as an effect of the imagination on the part of the father, but as a few days later the child again used the word several times and has continued to do so, the observation was probably correct. In the course of two or three weeks he was able to indicate food or drink by pointing toward the desired article. He soon added "yes," "stop," and some other words to his vocabulary. He would stand for a short time if placed by a chair, but seemed to fear that he might fall.

June 7th.—A careful examination of the child shows no apparent alteration in the measurements of the head. Since the operation there has been a continuous, gratifying improvement in the mental condition. The facial expression is much more intelligent. He notices and takes an interest in what is going on around him. He looks up when called by name. He can walk across the room when steadied by the hands. He will stand at a chair for a long time and for a few seconds has stood unsupported. The nutrition of the lower extremities has improved decidedly, but there is still slight contraction of the gastrocnemii. He makes constant efforts to talk and is gaining new words. When charged with doing something that he should not do, he says "I didn't;" when teased, will cry "Stop!" When asked where certain members of the family are, he will look toward the one indicated. He does not have the unmeaning crying spells to which he had been subject, nor does he roll the head from side to side as he did before the operation.

Until the suggestion of Lannelongue, about a year ago, the only hope for these unfortunate feeble-minded children lay in education, a measure not attended with the most satisfactory results. It does not seem logical to suppose that this procedure will benefit a large proportion of these cases, for in many there is probably more than a relative disproportion between the development of the brain and its bony covering; but even if a small number be reclaimed from utter idiocy and permitted even a moderate intellectual development, it is so much gained, and would justify a procedure attended with much greater risk to life than is linear craniotomy. The case now reported makes the eighth to be placed on record in this country. Of these, two have died shortly after operation, and one was reported so soon after the operation that the presence or absence of improvement could not be determined. In the remaining five, as well as in the

two cases reported by Lannelongue,[1] there has been a definite improvement observed. The cases so far operated upon have, however, been too few, and the time that has elapsed since operation, too short to enable any definite conclusions to be presented; but the fact that there has been decided improvement immediately following the operation clearly shows the relation of effect to cause, and warrants a continuance of the operation in these otherwise unpromising cases.

It is rare that any operation suggested for the relief of a definite affection limits its application to that condition. So it will probably prove with this operation of linear craniotomy. This thought is suggested by a case now under observation, that of a boy, aged ten, with a rather small head, and a mental development below the average, who, for several years, has been the subject of constant attacks of petit mal, varying in number from ten to twenty daily. With these there are occasional severe epileptic seizures at intervals of two or three weeks to as many months. In some of the major attacks it has been noted that the right side of the face and right arm have been distinctly more involved than the other parts of the body. There is no traumatic history, and no evidence of scar on the shaven scalp. In this case the proper course seems to be to make an exploratory operation and examine the region of the face and arm-centres for the right side, and failing to find there any explanation of the epilepsy, to do a linear craniotomy. Certainly it seems logical to suppose that if a certain disproportion between the size of the skull and the brain is sufficient to hold the functions of that organ in abeyance, a slighter disproportion might give rise to irritation of the brain, placing it in a condition of unstable equilibrium, so that the slightest cause would be sufficient to induce motor and other phenomena.

THE REPORT OF FOUR CASES OF PENETRATING GUNSHOT WOUND, INVOLVING THE CRANIAL, PLEURAL, AND PERITONEAL CAVITIES.[2]

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As the occurrence of wounds inflicted by fire-arms in civil life is comparatively rare, and as each of these four cases in several respects possessed special features of noteworthy importance, it is assumed that a record of them, with a few comments on gunshot wounds which open into hollow viscera, will not be without some slight interest.

Three of the cases were admitted into Harlem Hospital during one week. No others had been seen by me, of this description, in my service there, for more than a year previously. The first was brought in November 22, 1890, and the third, November 29, 1890. The fourth was admitted September 14, 1889.

CASE I.—In the evening of November 22, 1890, M. C—— , a young, healthy, vigorous woman, aged eighteen, was accidentally shot by her brother, who was handling a revolver when a cartridge exploded. Immediately after being wounded she fell to the floor bleeding from the head. In a few moments she recovered consciousness, when an ambulance was called and she was taken to the hospital. At the time when I saw her, one hour after the accident, she was sitting up in bed and was suffering none whatever from shock.

On examination I found that the missile had entered two inches external to the outer canthus of the right eye, just above the zygoma, had passed through the radiating fibres of the temporal muscle and was impacted in the shattered fragments of the squamous plate of the temporal bone, which it had penetrated. A free, deep, crucial incision was now made, dividing the terminal branches of the temporal artery and exposing the surface of the bone. The bullet was found lying on its long axis against the fragments of bone immediately beneath it. With a bullet-forceps it was easily dislodged. Now all the small pieces of depressed bone were removed, when we came on to the bare dura mater, which showed no signs of having been lacerated. After all loose, detached fragments of bone, and the torn, soft tissues were entirely cleared away, the cavity of the wound was irrigated with mercuric chloride solution, and the wound was dressed without the use of sutures, for the purpose of securing a free vent for any tainted or contaminated secretions, and besides, to secure union by granulation.

The day following she felt so well that she was desirous of leaving the bed. She had no constitutional disturbance of any description, had slept all night, and had a good appetite. There was no headache nor cerebral symptom of any description whatever.

The second day in hospital was uneventful, so that a

FIG. 1.

change of the dressings was decided unnecessary. She said except for the soreness over the wound she felt perfectly well, and was anxious to go home.

At about noon on the third day she commenced to complain of pain in the head and bodily weakness. At this time her temperature was 100½° F., and her pulse 115 per minute. During the forenoon she had vomited twice.

At two o'clock in the afternoon her wound was dressed. She would not get on the stretcher, but insisted on walking into the operating-room unaided. The wound looked healthy, was free from pus, and was closing in. There seemed no abnormal tension on the dura mater from beneath. She had returned to her bed but a short time when the nurse noticed that she was breathing heavily and was unconscious. Three hours later, five hours after walking out of the ward, she sank into a deep coma and died.

Post-mortem Examination.—Twelve hours after death the cranium was opened. The pia mater and arachnoid membranes were of normal consistence, free from any apparent pathological changes, except over the traumatized area. Here there were well-marked indications of incipient meningitis for a distance of more than an inch and a half from the circumference of the aperture through the skull.

Beneath that part of the dura mater which had been depressed by the missile there was a small blood-clot embedded in a mass of softened, disintegrated brain substance. There was some slight engorgement of the vessels in the hemispheres, with minute extravasations of blood into the convolution bordering on the fissure of Rolando. In other respects the brain was healthy.

[1] L'Union Medical, July 8, 1890.

[2] Read before the Section on Surgery, New York Academy of Medicine, May 11, 1891.

CASE II.—Mrs. L——, eighteen years of age, native of the United States, was admitted into the Harlem Hospital on the evening of December 1st, suffering from a self-inflicted pistol-shot wound of the left lung.

While standing on the platform of one of our elevated railroad stations she suddenly unbuttoned her cloak, throwing it widely open, drew a revolver, aimed at her heart, and fired. Immediately after an ambulance was

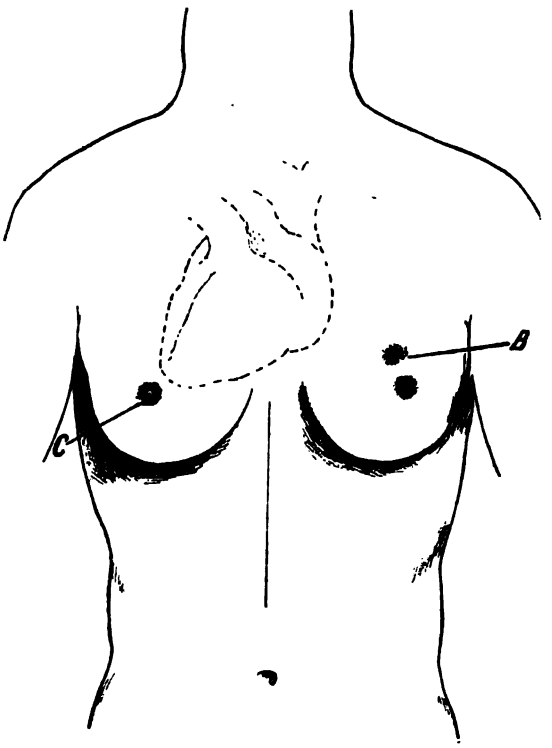

FIG. 2.—Anterior View. *B*, Aperture of entrance; *C*, apex-beat on right side.

telephoned for, and on its arrival the wound was temporarily dressed and stimulants were administered.

When she was seen by me, two hours after the shooting, she was suffering from collapse, and judging from the position and direction of the wound, it was assumed that some one of the large blood-trunks lying in the path of the missile was wounded, and that fatal internal hemorrhage must shortly terminate life. The ball entered one and one-half inch above, and slightly to the inner side of, the left nipple, emerging two inches to the inner side of the internal border of the scapula, beneath its spine, lying under the skin posteriorly. It was readily removed by a small incision. The lips of the wound of entrance were slightly everted, charred, and discolored by burnt powder. The wound was not probed, but was slightly dilated and cleansed of all foreign material accessible.

From her anæmic condition and the state of the lung, as revealed by physical examination, it was clear that there had been an enormous escape of blood into the pleural cavity. After dressings were applied she was placed in the recumbent position, iced-water towels applied to the left side of the thorax, and cold drinks given. There was but moderate oozing at any time from the wounds of entrance and exit, and there was no hæmoptysis. Antiseptic dressings were applied, and one grain of opium was administered.

On December 2d the temperature was 101.8° F.; pulse, 120; respirations, 30. On this date the dressings were reapplied. At this time there was no pleuritic pain; no bronchitis. On inspecting the thorax it was seen that there was no lung expansion on the left side. On the right side, however, it was evident, from the manner in which the shoulder and scapula were raised with each inspiration, that the lung had greatly increased in function, in order to compensate for the pulmonary inaction on the wounded side. On percussion the entire pulmonary area on the left side, except in the subclavicular space and over the spine of the scapula, posteriorly, was destitute of resonance. In carrying the ear over the region of the heart the usual normal sounds were wholly absent; nor was any impulse apparent to the touch. Over to the right side, however, about three inches from the border of the sternum, near the chondrocostal articulations of the fourth and fifth ribs, cardiac movement could be distinctly seen, and the apex-throb felt with the finger.

My first impression was that we had a clear case of congenital transposition of the heart; for it seemed scarcely possible that sufficient sanguineous effusion could escape into the pleura to crowd the heart over the anterior mediastinum without inducing fatal anæmia. But the patient herself said that she always previously felt the heart's impulse on the left side, and that she aimed the weapon with a view of penetrating that organ when she fired.

In order to clear up any doubt on the matter, I invited Dr. John G. Truax, Visiting Physician to the Harlem Hospital, in to see the case. After a most thorough physical examination he informed me that the displacement was mechanical and recent, as he had determined by many tests. On puncturing the left pleura at different points with the exploratory needle, he withdrew a bloody liquid.

Up to the fifth day of admission the case pursued a most favorable course, the temperature not yet reaching higher than 99.5° F. The apertures of entrance and exit were carefully dressed, and manifested a tendency to rapidly fill in with granulations. Now the question arose in my mind whether it was in consonance with rational treatment to close in those apertures, or purposely prevent union of them until the effused blood was absorbed and all danger of septic inflammation was past.

It might be argued that by sealing in those vents all possible danger of future contamination through the wounds would be impossible. Yes; but the pulmonary

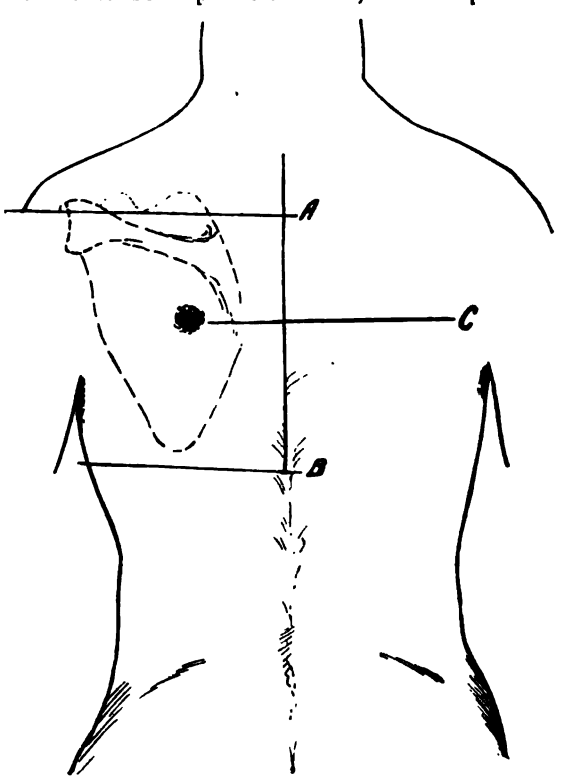

FIG. 3.—Posterior View. *A*, Upper limit of area of flatness; *B*, lower limit; *C*, aperture of exit.

parenchyma was torn through by the missile, large vessels divided, and the smaller bronchial tubes opened, so that by way of the air-passages a means of infection was constantly open, and hence it could be only a matter of time when putrid changes would develop in the wound, in consequence of the access of pathogenic germs through

the respiratory tract. Further, in the event of pus formation, unless a free vent were given to it and the infected sanguineous mass within the pleura, fatal results must ensue. It seemed to me that in these cases of gunshot or stab wounds of the lung, inasmuch as we can by no means within our power prevent infection through the air-passages, provision should be always taken to provide for free irrigation and drainage when purulent changes should make their appearance.

On the fifth day the woman had a violent chill, quickly followed by lancinating pains in her left side, great prostration, and a rise of temperature to 104° F., with a pulse of 126. She passed a very restless night, with no sleep, but great thirst.

At noon on the 6th her dressings were changed. At this time a thick silver probe was introduced into the anterior aperture. This was immediately followed by a large sanguino-purulent discharge, which came away in considerable quantities. The irrigating tube was now inserted, and the pus cavity thoroughly drenched by a mercuric solution. Now a drainage-tube was inserted, and she was turned on her left side and placed in the position that best favored drainage by gravitation. Her symptoms immediately improved, so that by the next day the temperature was again normal. The anterior perforation continued to discharge freely a foul secretion until the sixteenth day, when it commenced to notably diminish, and by the end of the third week it had wholly ceased.

This open, dependent, thoracic drainage saved the young woman's life. In wounds of this description bronchial infection is inevitable. One might assume that the tainted material arising from microbic invasion must needs find a free vent by way of the trachea; but a careful observation of the course which the gases take as they enter the minute bronchi and pulmonary alveoli, will at once explain this singular phenomenon in pneumo-dynamics, by which the inward wave of air must make a circuit on entrance in a centrifugal direction before it returns.

We have many clinical illustrations of this in traumatisms which involve the periphery of the organ when the air-vesicles give way. The air as it descends into the lung, immediately escaping by the same channel in which it entered, is drawn downward into the lower lobes and forced into the resisting connective tissue, so that we have an emphysematous condition present of varying extent.

When our patient left the hospital, four weeks after admission, her lung had wholly regained its normal power, and she was fully restored to her former health.

CASE III. *Penetrating Gunshot Wound of the Pleura, Lung, Peritoneum, Liver, and Stomach.*—Peter S——, aged twenty-two; single. This patient, as the preceding, made a suicidal attempt on his life, employing a 32-calibre Smith & Wesson revolver. He shot himself at five o'clock on the evening of November 27th, two hours after eating a hearty dinner, into which fowl largely entered. When he fired he was in his shirt-sleeves, and aimed directly at the heart. I saw him two hours later in the hospital. At this time he was of a deathly pallor, but the extremities were warm. His nose, eyes, and ears were of a marble whiteness. The pupils were widely dilated, and the sclerotica was of an unnatural lustre. The body was bedewed by a copious perspiration. Breathing was shallow, accompanied by frequent sighs. The pulse was thready, and beat 140 to the minute. He lay in a listless state, and only spoke when questioned. He was warm, and when roused he articulated with clearness and energy. From the time he entered the hospital he incessantly vomited, the ejecta consisting mainly of blood mixed with mucus, partly digested food, and iced water, which was given him to slake his unquenchable thirst. He said that he felt very weak, but had no pain except over the region of the left kidney. Here, he was quite positive, the ball was lodged, for he complained of a sharp burning pain in this situation when he moved the body, coughed, or vomited.

Exteriorly there was no unusual fulness at the point of pain. On withdrawing some urine with the catheter there was no trace of blood to be found in it.

The location of the wound in the wall of the thorax was just two and one-half inches below the left nipple, and on a perpendicular line with it. The missile entered through the fifth intercostal space, close to the superior border and near the centre of the sixth costal cartilage. The aperture of entrance was large, with circular, ragged, blackened borders from which minute particles of powder were picked with fibres of the clothing, which was perforated. It bled but little. After carefully cleansing the orifice of the wound a bullet-probe was introduced. On moderate force it entered for a

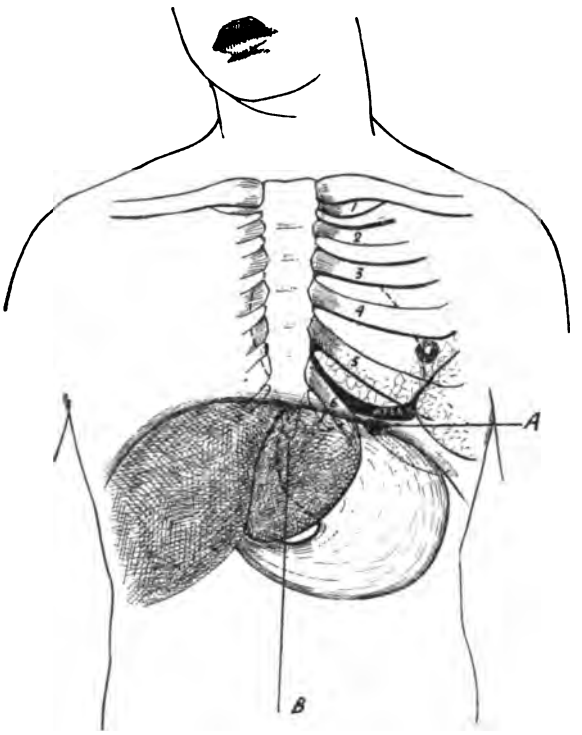

FIG. 4.—Anterior View. *A*, aperture of entrance; *B*, Abdominal incision.

depth of two and a-half inches, taking an outward, backward, and downward direction. When this was withdrawn I introduced my index-finger, as I supposed, directly into the pleural cavity, and imagined that I could distinctly feel the bare apex of the heart as it lengthened in each diastole. The thump against my finger was so forcible that with each impulse the whole hand was moved to and fro. This manipulation caused some slight hemorrhage externally. There was no emphysema. On applying the ear over the precordia, with each contraction of the heart a peculiar splashing sound was distinctly heard. The lower pulmonary area below the nipple line on this side was flat on percussion, nor could any respiratory murmur be heard on applying the ear.

Judging from the position and direction of the bullet track, in connection with other physical phenomena present, it was evident that the missile must have torn through a large blood-trunk, which was draining into the pleural cavity. The suspected vessel was the internal mammary artery, a vessel deeply lodged, and in this part of its course wholly inaccessible.

Were the pleura, lung, peritoneum, and stomach, penetrated?

Reasoning on theoretical premises, and calculating from anatomical landmarks, if the ball had passed onward, making a breach through the diaphragm, this enormous accumulation of fresh arterial blood should have gravitated downward through this vent and flooded the cavity of the peritoneum, but there was no physical evidence of hemorrhage within this sac. Nowhere was the abdomen

unduly distended, nor on careful percussion was any dulness or indication of displaced viscera to be elicited. Change of posture and pressure applied over the hypogastrium gave no proof whatever of a fluid accumulation. On the contrary, the abdomen was rather flat and tympanitic. But the man was raising blood copiously from the stomach, and it was incontestable that its walls could not have been pierced without the bullet engaging, in transit, the peritoneum and left lobe of the liver.

Now, if the bullet perforated the anterior wall of the stomach, had it lodged within its free cavity, so that it might be ejected through either orifice? Or did it, in its path, penetrate both walls, and fall into the peritoneal cavity; or, further, traversing on a direct horizontal line through the stomach, did it penetrate the shelving, posterior, arching crus of the diaphragm, and enter the pleural cavity again?

Unfortunately, notwithstanding what may be said to the contrary, we are not yet in possession of any device by which we are enabled to recognize or differentiate the various lesions within the peritoneum in cases of gunshot wounds. Hence, in the present instance, the most we could reasonably assume was that the parietal pleura and lung were opened, and that the vascular walls of the stomach were probably perforated.

About one thing there was no doubt, however, viz., that this man was suffering from an alarming hemorrhage, which must soon terminate mortally unless it ceased of itself or by the intervention of art.

Was surgical interference—an abdominal section—justifiable under the circumstances, assuming that nature's unaided efforts were not sufficient to subdue the hemorrhage? Senn, in his latest brochure on gunshot wounds of the abdomen,[1] lays it down as an axiom "that we must not open the abdomen for treatment of gunshot wounds above the umbilicus, unless we have proof of perforation or extensive hemorrhage into the peritoneal cavity."

Now in this case we had no proof of either, and events will show that we may have not a single but a double perforation of a viscus without any leakage whatever. The patient, having full possession of his faculties, gave me permission to do what I deemed most prudent or desirable.

As his case was one of suicide, and consequently, if it terminated fatally after incision I felt that I would not probably have to defend myself as a contributory agent, as might be the case under other circumstances; and besides, as I hoped to reach and secure the bleeding points within the abdomen, arrangements were speedily made for the epigastric incision. Having made ample provision for emergencies which might arise, and freely stimulated our patient, the exploratory operation was begun. The room was well lighted and heated, with every precaution against infection carefully observed. An incision was rapidly made, extending from the ensiform cartilage to the umbilicus. In coming down on the gastro-hepatic omentum it was divided and pushed aside. Now the left lobe of the liver, with the white, glistening, convex surface of the stomach came into view, and the peritoneal cavity was opened. But not a drop of blood could be seen, nor any other foreign substance. The fingers were carried over the free border of the left kidney; but nothing was amiss there, where he supposed the missile had lodged.

Having thus far discovered nothing except the perforation in the liver, I placed my hand flatwise against the interior wall of the stomach and gently pressed it backward, when all at once it was bespattered with blood, and with each inspiration there was a distinct, hissing, suction sound, similar to that which we hear when air enters the pleural cavity through an opening in the thoracic wall.

At this stage our difficulties commenced; as it will be observed that the opening into the stomach was immediately under the left lobe of the liver, about seven inches above its free border, and in contact with its posterior surface, above and behind the lower margin of the costochondral articulations of the sixth, seventh, and eighth ribs. Although the blood escaped in spurts from the wound in the wall of the stomach, the perforation could not be seen, owing to the position it occupied. However, by making gradual but firm traction in the perpendicular axis of the stomach, the perforation came into view, though it was situated so high up that with each expiration it was drawn up completely out of sight.

After firmly fixing two strong tenacula in the gastric walls, including everything except the mucosum, and putting the parts on the stretch, we were enabled to again bring the bleeding orifice into view. But even now the introduction of sutures into an organ in perpetual motion was almost impossible. By a quick movement, as the viscera descended with the ingress of air into the lungs, I was able to invert the edges of the opening and insert two interrupted Lambert sutures. Fearing the consequences which might follow such extreme tension as it was necessary to employ, we relaxed our grip three or four times in the course of suturing. After two deep sutures were inserted, a continued suture was carried over all. Now the hemorrhage completely ceased externally. Not finding any other perforations the peritoneal cavity was flushed with warm sterilized water, the omentum replaced, and the abdominal incision closed.

Our patient came out of anæsthesia well, though at one stage of the operation he was quite pulseless. He passed a very comfortable night, vomiting no more, but, early in the morning he had a large discharge of discolored blood-clots by the rectum.

The day following operation, in the morning, his temperature was 99° F.; pulse, 118; and respirations, 31. He was given bits of ice to eat through the day, and enemata of milk-punch were administered every two hours. Before evening on this day he had two more large motions, consisting of almost nothing but blood. It was evident that when the vomiting ceased the blood had taken a downward direction.

Through the night of November 29th—the second in hospital—he had six small passages of black, partly digested blood-clots. When I saw him on the morning of November 30th, at five o'clock, his condition was excellent. He was then taking champagne by the mouth with relish, and was retaining it. He said he felt "first-rate" and expected to get well. At this time, without disturbing him, I removed the drainage-tube and changed the dressing. His belly was then flat and soft, with entire freedom from tenderness. During the day he clamored for something to eat, and said he was very hungry. Small quantities of beef juice were given him now, and were well borne.

Monday morning, December 1st, his temperature was 102° F.; pulse, 130; respirations, 26. He passed a comfortable day. In the evening at two o'clock he was suddenly taken with a violent pain under the left shoulder-blade, and commenced to breathe with great distress. The temperature ran up to 105° F., and pulse to 140. With the onset of this sudden collapse, although his mental faculties were yet undimmed, he gave up all hope.

December 2d, in much the same condition. The pleuritic pain in the left side constantly tortured him, and local application of hot stupes and fomentations, with the free administration of opiates, seemed to make but little impression on it. The whole of the left side of the thorax was extremely sensitive to the touch, and on percussion flat and non-resonant. At this time respiration was maintained wholly by the right lung.

December 3d.—In the early morning his condition was more hopeful and he was taking nourishment freely. After midday, nevertheless, he began to grow weak, the pulse was thready and flickering, the extremities became cold. At 12.45 A.M., December 4th, he died, on the eighth day after admission.

[1] Penetrating Gunshot Wounds of the Abdomen, Meeting of American Medical Association, Nashville, Tenn., May, 1890.

Post-mortem Examination.—Twelve hours after death the body was opened. The thoracic and abdominal cavities were exposed by the scalpel, and their walls widely separated. It was found that the missile had taken a course directly backward and outward, and had pierced in transit the integuments, the intercostal muscles, the diaphragmatic branch of the internal mammary artery, the costal and pulmonary pleuræ, the lower lobe of the left lung—one and one-half inch from its free anterior border—the muscular crus of the diaphragm, the peritoneum, the left lobe of the liver, both walls of the stomach; again entering the peritoneal and the pleural cavities posteriorly, it passed completely through the lower lobe of the lung and embedded itself in the fibrous covering of the eighth rib, four and one-half inches from the costo-spinal articulation. The left lung was found compressed into a small, shapeless mass at the apex of the pleural cavity. It was deeply congested, and on its serous surface was firmly adherent to the enormous blood-clot which compactly filled in the pleural cavity. This coagulum, by its pressure on the serous membrane, had evidently excited an adhesive pleurisy, for everywhere it could be peeled off in laminated layers, in which were mingled numerous flakes of coagulated lymph. The liquid elements of the effused blood had been resorbed, and the central portion showed evidence of disintegration preparatory to final assimilation. At the point of perforation of the bullet the lung was hepatized, and a small quantity of pus was found directly under the pulmonary pleura, about one inch from the free border of the lobe, through which the bullet traversed.

On opening the abdominal cavity it was found that the incision had not completely healed by first intention, but there was no trace of peritonitis nor effusion. The perforation through the liver had filled in with a granular material, which offered considerable resistance to the probe. The stomach was now wholly removed and distended with water. The sutured aperture was hermetically sealed, though there was a slight oozing through to the upper posterior wall of the stomach. By observing the direction from whence the fluid came we discovered the second perforation.

The first opening made by the bullet into the stomach was through its thick muscular coat, close to the œsophageal orifice; the posterior was one inch lower down, at a part uncovered by peritoneum. The organ was empty of aliment. All the organs of the body were normal, except those directly implicated in the wound.

Case IV. *Penetrating Gunshot Wound of the Lung and Stomach—Treated by the Expectant Method—Recovery.*—C. B——, male, aged thirty-nine, foreigner, married. Admitted into Harlem Hospital September 13, 1889, at 8 P.M. Previous history: Was shot through the right side in the Franco-Prussian war, the missile entering two inches forward of the anterior border of quadratus lumborum muscle, just above the crest of the ilium. The bullet is still in his body. He claimed that the present wound was accidental, having been caused by the discharge of a revolver while he was cleaning it — a 32-calibre weapon. The police, however, and others maintained that he attempted suicide. This view was strongly supported by later revelations, from the position and direction of the powder-burned perforation, and from the fact that, as in the two preceding cases, the heart was the objective point. Three hours after admission he was seen by me. At this time mortal symptoms were present. The radial pulse was intermittent and barely perceptible, the extremities were cold, and the whole body was bedewed with a copious perspiration. He was deathly pale; the nose, lips, and ears were of an ashy white. There was a distinct and constant spasmodic twitching of the muscles of the eyeballs and lips, and he was almost continuously dropping blood and foam from the mouth. He lay on his back, with half-closed eyelids, breathing by gasps and sighs.

On examining the body it was seen that he had shot himself, the bullet entering three inches below the left nipple, and a little more than one inch to the inner side of a line passing downward in a perpendicular direction from it, just below the apex of the heart, through the sixth intercostal space. From this point it took a backward direction and lodged posteriorly, shattering the shaft of the tenth rib five inches from the spinal articulation,

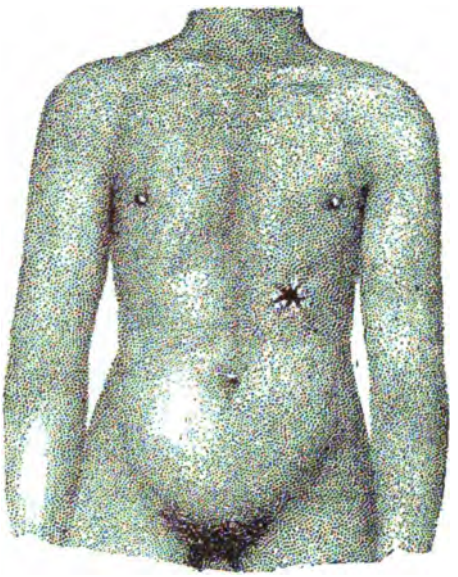

Fig. 5.—Anterior Aspect—Wound of Entrance.

and giving rise, by the emphysematous escape of the pulmonary gases and effused blood into the adjacent tissues, to a large, globular swelling under the integuments about the size of a billiard-ball. A simple antiseptic dressing was now applied, and measures resorted to with a view of securing prompt reaction, if possible. He was placed in hot blankets and warmed by the application of heated bottles of water placed in large numbers about him. Hypodermic injections of brandy and frequent stimulating

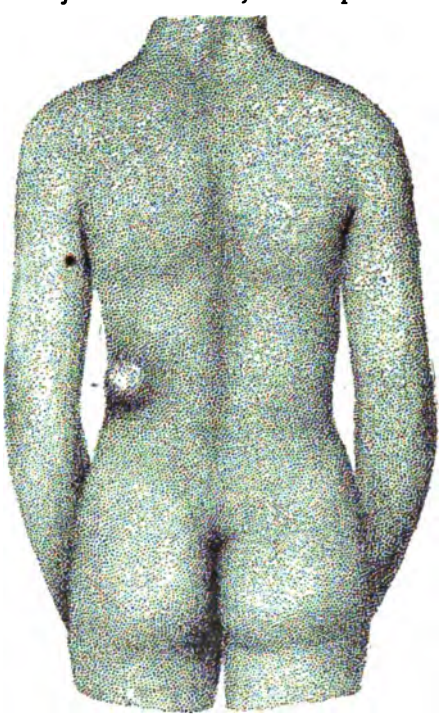

Fig. 6.—Posterior Aspect—Conical Protrusion of Shattered Rib.

enemata were administered. Internally he was given nothing but fragments of ice to slake his thirst, and two drops of laudanum every twenty minutes. He passed a very restless night, vomiting coagulated blood in large quantities, and complaining of severe pain in his left side.

September 14th, 10 A.M: Temperature, 98° F.; pulse, 130; respirations, 34. P.M.: Temperature, 99⅘° F.;

pulse, 80; respirations, 24. From this date until the 20th—four days—his general condition continued to improve. His side gave him considerable pain both night and day. On the evening of this date he had a chill, and the temperature rose to 101° F., and the pulse to 126. His breathing became suddenly labored and painful. On percussion it was evident that the left pleural cavity was the seat of a large sanguinolent effusion. He was now taken to the operating-room, and a free incision over the convexity of the fulness posteriorly was made. Through this the bullet, flattened and indented was removed, together with several small spiculæ of crushed rib; broken down blood-clots, and a considerable quantity of a sanguino-purulent matter. A drainage-tube was introduced and the parts were thoroughly irrigated. From this time the pain diminished, coughing ceased, and steady improvement in his general condition was noticed. The effusion into the pleural cavity was rapidly resorbed.

On the seventh day after admission the aperature of entrance had closed in, and that of exit was well contracted.

On the 23d—ten days after the shooting—his friends came and took him home. He returned to the hospital once a week, for a month, until the incision in the back had healed. He made a perfect recovery, and has since been in excellent health.

It will be observed in this case that although the pulmonary parenchyma was perforated there was no hæmoptysis at any time, unless it was immediately after he was shot, when so much frothy material issued from his mouth.

This was the only one of the three cases of traumatic pulmonary lesion in which there was well marked emphysema. It is likewise noteworthy and important to observe that in this, as in the two preceding cases, no serious symptoms appeared until after the lacerated tissues had become infected by germ invasion through the air-passages; and that they vanished rapidly and completely as soon as a free vent was given to the pent-up decomposing material within the pleural cavity.

In the case just cited was the stomach perforated? did the missile, in its path, make an opening through both of its walls? If so, are stomach wounds in the human being necessarily mortal when active surgical intervention is withheld?

With respect to the first query, considering the site of the initial orifice, the range which the bullet took, and the fact that the man had shortly before using the revolver eaten a hearty meal, the stomach could not possibly have escaped. Besides, the free and copious vomiting of blood after reaction was established more clearly emphasized the probability of this organ having been wounded.

It might be alleged that as there was no emesis of blood immediately on entrance to hospital, the walls of the stomach were not penetrated. But it should be remembered that after the shot was fired he at once became unconscious and fainted; that he was in profound collapse for several hours before the system regained its equilibrium and the vital powers their wonted energy.

Inasmuch as there was no evidence of hemorrhagic accumulation into the peritoneal cavity—which, as we supposed at that time must always be the case when the cavity of the stomach is opened by a ball—we were undecided as to diagnosis.

But Case III. definitely decides the fact that the stomach may be perforated through and through without the necessity of either the gastric contents or effused blood emptying in any quantity whatever into the peritoneal cavity. The importance of this fact cannot be overestimated when we are called on to deal with bullet wounds which involve the stomach.

When it is remembered that the stomach, whether distended or empty, always lies in close contact with the inferior surface of the diaphragm, along with the circumjacent viscera, we may more readily appreciate the manner in which free hemorrhage into the large lymph sac of the abdomen is prevented, the blood flowing into the lumen of the alimentary canal.

It can be scarcely doubted but at the instant of explosion of the cartridge in suicidal cases the respiratory act is for the moment in abeyance. The unfortunate takes a long inspiration, points the weapon, and fires. If the wound has not been immediately mortal, more or less shock follows; the heart's action is so feeble that should one at this stage open a small vessel no blood will escape.

During the interval of shock the thick muscular walls of the stomach, which are rich in abundant muscular fibre, the fasciculi of which fuse and interlace in every direction, have so contracted over the perforation that by the time the system has reacted, the gap is closed in.

Dr. J. H. Conway, of Eudora, Ga., recently reported the case of a man shot from behind, with a 38-calibre Smith & Wesson revolver, "the ball entering close to the spine, on the left side. After being shot he ran about two hundred yards, then became very sick and vomited

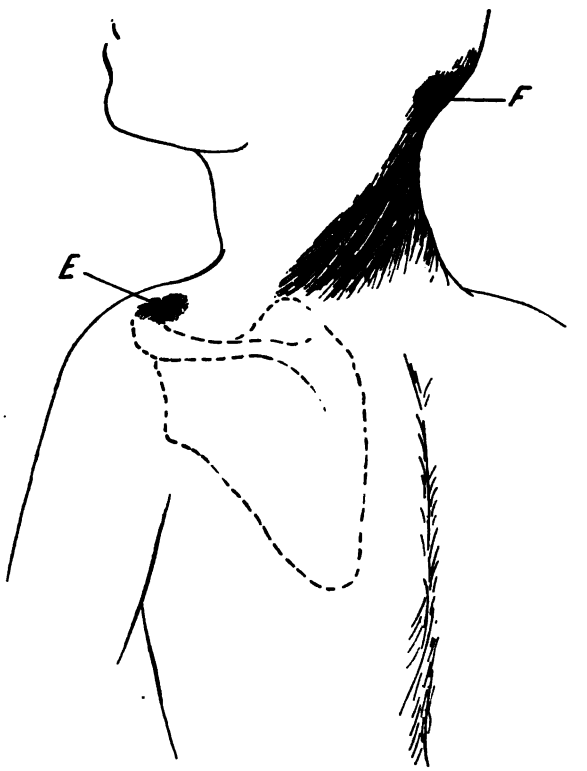

FIG. 7.—Penetrating Gunshot Wound of the Spinal Canal. *E*, aperture of entrance; *F*, aperture of exit.

freely of food and blood. He was brought home, a distance of about a mile from the spot where he was shot. About half an hour after he entered his house, while in bed, with his head hanging over its edge, he vomited the bullet, with a large quantity of clotted blood. Sixteen days after he was wounded food was freely given him, and he made a rapid recovery.[1]

Paul Berger, at the Congress of French Surgeons recently in session in Paris, reported two cases of penetrating gunshot wounds of the stomach, with rapid and perfect recoveries in both without intervention. He included in his article five other cases of penetrating wounds of the abdomen, occasioned by the knife and bullet. Those who were stabbed recovered without abdominal incision.

In three cases, in all of which the intestine was wounded, laparotomy was performed; two of these resulted fatally. He concludes his valuable contribution by saying that in penetrating gunshot wounds of the abdomen, with lesion of the intestine, abstention should be the rule when there are no indications of peritoneal infection, or when this follows a subacute course.[2]

[1] Dixie Doctor, March, 1891, p. 70.
[2] La Tribune Médicale, April 9, 1891.

In cases of gunshot wounds of the stomach, unless there be present well pronounced and positive evidence of free leakage of the stomach's contents and blood into the peritoneal cavity, abstinence from surgical intervention should be the rule. The perforation or aperture of entrance should not be probed nor explored, nor, in my judgment, should any violent means be resorted to for the purpose of attaining an accurate diagnosis. The hydrogen insufflation test seems to me particularly reprehensible in these cases. The passage of a large tube through mouth and pharynx into the œsophagus of a man in almost a moribund state is attended with difficulties better imagined than described. And assuming this manœuvre safe and simple, the stomach being already partly filled with blood or ingesta, must expand to make way for every cubic inch of gas injected, or else a cubic inch in volume of its fluid contents must be displaced. Where? Not in the direction of the œsophagus, for that is plugged by the tube. The displaced contents may pass downward through the pylorus. But supposing that they escape through the bullet wound in the gastric wall, or, as in the case of the young man on whom we performed laparotomy, there is a double perforation which deluges the peritoneal cavity with a grumous mass of partly digested food and blood? But the stomach may be empty, there are no solids or liquids in it. The relations of the parts have now, however, unhappily changed, and no gas appears at the outer aperture until the ventral cavity has been greatly distended, the diaphragm crowded upward and backward with great force against the heart and lungs, so that life may be imperilled by asphyxia, especially if this method is applied to the male sex. The possibility of explosion at the moment of ignition of the escaping gas is not to be overlooked.

Although facilities were at our command by which we could with ease and precision locate perforation, if the lesion were in the course of the lesser curvature of the stomach, in the left hypochondriac region, beneath and above the free borders of the sternal ends of the lower seven ribs, would we always be able to close in bullet perforation by surgical intervention? A considerable area of the surface of the stomach is wholly inoperable. This is attributable to the fixed, concealed arrangement of the superior expanded segment of the organ, which lies high up behind the left lobe of the liver, and its under surface is in immediate contact with the larger blood-trunks.

The application of sutures in any part of the walls of the stomach, either anteriorly or posteriorly, which are covered in by the liver above, is always attended with very great difficulty. Difficulties do not arise so much, however, from the stomach's concealed position as from the constant up-and-down motion imparted to it by the diaphragm. Owing to this phenomenon steady fixation of the organ during delicate and tedious manipulations of it is an impossibility.

The treatment of small stab wounds or gunshot perforation of that portion of the stomach lying in the left hypochondriac region should then always be tentative, conservative, or palliative. A penetrating wound in this situation before it can reach the stomach must pierce the lower lobe of the left lung and the left lobe of the liver when the point of penetration is within five inches of the median line to the left. Hence we must bear in mind that even though the stomach were accessible for repair there would yet remain a double danger, first, from hemorrhage from the hepatic or pulmonary tissues, and second, from infection. But we may endeavor to keep the puncture through to the lung open by stuffing it with fine gauze and not permit it to close until all shreds or fibres of clothing, detritus of necrosed tissues, and infected material have drained away.

The alimentary canal, along with being the digestive tube of the body, may also be regarded as a sort of sacculated and convoluted ventilating funnel. It differs from any ordinary ventilator only in its arrangement, inasmuch as instead of the consumed, polluted gases escaping from above, it is here that the oxygenated supply enters unmixed, or in conjunction with the ingesta, and is thrown off, or exhaled as it were, below by the rectum.

The stomach demands a considerable supply of air as well as liquids in the work of oxidation and effecting chemical change in the food which enters it. Now, if when suddenly perforated it apply itself in such a manner against some contiguous part, by the action of the vacuum within the peritoneal cavity, then none of its gaseous elements will escape; nor will atmospheric air enter the peritoneum and diffuse itself in such a manner as to displace that provisional approximation supplied by the economy.

Accordingly no probing should be resorted to in those cases, but every precaution observed to secure rest. After the wound has been thoroughly cleansed and antiseptic dressings applied, a broad, smooth bandage must be applied for the purpose of taking the strain off the muscles and supporting the viscera.

Extreme quiet of mind and body are indispensable. The patient should be nourished by enemata. Opium in small doses in these cases is a sovereign remedy. By calming the mind and subduing pain the system is placed under the best possible influences to complete the reparative processes.

I have incorporated the first case here, that of gunshot wound of the skull, simply as one of the many cases which have come under my observation in which results and symptoms have borne almost no relation with the extent of local injury; and it goes a certain way toward disproving the modern theory of cerebral localization.

From the cases here reported with respect to penetrating wounds of the pulmonary parenchyma and of the stomach; from my previous experience and all that I have been able to gather from the experience of distinguished authorities, and from our present advanced knowledge of pathological processes dependent on septic invasion, it may be permissible to affirm that,

1st. In every case of penetrating gunshot wound of the lung the aperture of entrance should be carefully guarded against contamination until all foreign substances carried inward by the missile have been thrown off, and it should be kept well open till all danger of septic infection by way of the air-passages is passed.

2d. Should purulent infection arise, the aperture of entrance must be freely widened in order to effect deep drainage and dislodge by irrigation infecting accumulation.

3d. Under ordinary circumstances penetrating wounds of the stomach must not be disturbed by active surgical intervention as their usual tendency is toward recovery.

4th. Owing to the concealed position of the convex cardiac segment of the stomach, behind and above the liver, a perforating wound through its walls in this situation is inaccessible and beyond the reach of safe manipulation.

Germany very Backward.—The largely signed petition, praying "That the study of medicine at German universities be thrown open to women, and that women duly qualified be allowed to practise the medical profession," was contemptuously dismissed in the German Reichstag. That the petition would be rejected was a foregone conclusion. But it might have been expected that the question—which is everywhere acknowledged to be a burning one—would have been seriously discussed. It seems, however, that this was thought quite unnecessary by the opponents. The arguments against the petition were of the familiar, well-worn description, more suitable to a provincial debating club than to the Parliament of the German Empire. "Women should keep house, and not meddle with science. Women who study are objectionable." This was the gist of the opponents' speeches; the discussion did not rise above this level, and the petition was quietly thrown out.—*British Medical Journal.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE SIN OF DRUNKENNESS.

WE have heard a great deal about the disease of inebriety, and of how absurd and unscientific it is to consider an obstinate tendency to drunkenness a vice. It is interesting therefore to hear a declaration regarding the other side from Mr. Charles A. Bunting (*The Independent*, June 11, 1891). Mr. Bunting says:

"Drunkenness is not a disease; it is not hereditary, but a sin. This is shown by two-thirds of all who come to our Home. One-half and more neither had intemperate parents nor grandparents. Association was the cause in two-thirds of all the cases we have had, showing conclusively that it is a habit acquired. In one thousand two hundred and ninety instances the habit was acquired after coming of age and leaving the domestic fireside. If drunkenness is hereditary why is it that in ninety-nine cases out of a hundred the boys catch the "disease" while the girls do not? A strong argument against the hereditary theory is a statement made to me by the Superintendent of the Home for Little Wanderers, in Boston. He says that out of five thousand seven hundred children, more than half of whom were boys, he could recall but one boy who had become a drunkard. When we consider that the great majority of these little waifs are the offspring of drinking parents, and, in many instances, the children of parents both of whom are common drunkards, does it not seem strange (if drunkenness is hereditary) that out of such a large number there is not more than one instance of its transmission shown in the nearest offspring, without having to await its development in the grandchild or the great-grandchild?

"Nothing but God can meet the needs of the drunkard. No medicine can eradicate the cravings of the victim of alcoholic beverages. It is not a disease, and Christ can and will destroy all desire for intoxicants, if the sufferer will apply to him for aid. Hundreds who have tried all other remedies and plans have found in our Home that the Great Physician can cure the sin-sick soul."

These views will no doubt meet strong opposition in many quarters; yet to a certain extent they are in harmony with common-sense and practical experience.

Many inebriates were undoubtedly made so by gradually increasing indulgence in alcoholic liquors. Their systems became disordered to such an extent that self-control was lost and a morbid craving produced. Powerful mental influences which stimulate the will and help one to self-control will often effect a cure of these cases. The cause is social or psychical; the cure is psychical; hence it is not unnatural that many persons should call drunkenness a moral disorder rather than a physical one.

THE NUMBER OF TUBERCLE BACILLI IN PHTHISICAL SPUTUM.

DR. E. H. F. NUTTALL, of Johns Hopkins University, has shown that phthisical patients expectorate from 250,000 to 4,000,000,000 bacilli in twenty-four hours. Taking the average of, we will say, 100,000,000 per day, the patient would expectorate 365,000,000,000 bacilli a year, and if he lives three years, the total number of micro-organisms expectorated during his illness would be 1,095,000,000,000. Or multiply the year's annual out-put of 365,000,000,000 by 70,000, the number of cases of phthisis in this country, and we are confronted with the sanitary problem of destroying 75,000 times 365,000,000,000 microbes every year. These are rather discouraging figures, but it may be supposed that the vast majority of tubercle bacilli in the sputum die as the result of intercurrent disease or a pitiless environment.

THE BOOKS IN THE TALL TOWER.

THE library of the American Medical Association received the following important additions during the past year, viz., 45 periodicals, 24 reports of various kinds, 14 society transactions, 5 hospital reports, 16 dissertations and papers, and 8 college announcements.

The library, as we gather from the annual report, lies in one of the tall towers of the Smithsonian Institute, and the librarian complains that more room for it is needed. If last year's additions represent the general character of the library, we suggest its transferrence to the cellar, or its disposal in the interiors of the various manikin fishes and mammals that abound in the Institute. Those "8 college announcements" would lie well in the stomach of an imitation whale, and the "16 dissertations" would stiffen out very nicely the interior of the unpleasant-looking saurians which are grouped about the halls. One's sympathies are stirred at the thought of those reports, and dissertations, and announcements lying untouched in the Tall Tower. There is something touching also in the attitude of the faithful custodian who makes no complaint of the library, but only asks for more room, plus $10, for the "Index Medicus."

SEPARATE BEDS AND NERVOUS FORCE.

THE *Annals of Hygiene* preaches a curious doctrine when it says: "Much of the discomfort and nervousness which people complain of when they arise in the morning is due to the fact that each does not sleep alone. There are electrical changes going on in the system during the night, and where persons lodge together night after night under the same bedding these distributing causes work destructive results."

The *Annals* seems to think that there is some occult and undetermined electric force that works about under the bedding. Such statements are pure assumptions un-

worthy of a scientific journal. But *The Lancet* is also quoted as believing in this same force. "Nothing," says *The Lancet*, "will so derange the nervous system of a person who is so eliminative in nervous force as to lie all night in bed with another who is absorbent of nervous force. The latter will sleep soundly all night, and rise refreshed in the morning, while the former will toss restlessly, and will awake in the morning fretful, peevish, faint-hearted, and discouraged. No two persons, no matter who they are, should habitually sleep together. The one will thrive, the other will lose. This is the law."

This also is a most extraordinary kind of rubbish to appear from a scientific periodical. When, and how, we would ask, has it been discovered that some persons "eliminate nerve-force," and others absorb it? Has *The Lancet* discovered a new and potent truth not heretofore known to physics, physiology, or psychology, or is it indulging in *double entendre*?

If *The Lancet's* law be true, how is it that children thrive, that kittens grow, and that the average duration of life of the married is longer than that of the single?

We do not, however, altogether dispute the plea of the *Annals* and *The Lancet*, for there is practical truth in the point urged. But the reasons given are of the most fantastic and unsubstantial character.

STERILIZED MILK.

THE warm weather brings up again the neglect of infant feeding, and in particular of the sterilization of milk. An article recently published in the *American Journal of the Medical Sciences*, by Drs. Albert R. Leeds and Edward P. Davis, is of special value on this point.

Professor Leeds has made a careful chemical study of normal and sterilized cow's milk, and he finds that there are three classes of substances which are present in normal cow's milk.

1st. Substances in suspension, including: Nuclein, an organic compound containing phosphorus, the composition of which has not as yet been satisfactorily determined. Fat-globules, destitute of envelopes, and swimming in a colloidal ("somewhat ropy or mucilaginous") fluid, the physical characters of which are favorable to their persistence as separate globules under ordinary conditions of temperature and reaction.

2d. Substances present in a colloidal condition, including: Casein and lactalbumin, the former of which appears to be in combination with alkali, and probably also with lime and phosphoric acid, and is precipitable by dilute acid.

3d. Substances present in solution, including: A nitrogenous starch liquefying ferment, "galactozymase," milk-sugar, common salt, and certain soluble compounds of phosphoric acid.

The noted effects of sterilization are: *a.* The starch-liquefying ferment is destroyed and coagulated. After coagulation the "galactozymase" is insoluble, and is carried down with and included in the precipitate obtained on addition of dilute acid.

b. A portion of the lactalbumin, as it exists along with the other substances present in milk, is coagulated. But this coagulation is only partial, even after long-continued heating. Its effect however, is to thicken the milk and intensify its colloidal (ropy or mucilaginous) character.

c. The casein is not coagulated by the heat, but is less readily coagulated by rennet, and yields slowly and imperfectly to the action of pepsin and pancreatin.

d. The fat-globules themselves are somewhat affected by the heat, and after standing lumps of butter-fat have sometimes been observed on the surface of the milk. But the coagulated proteid matters attach themselves to the fat-globules and probably have an influence in bringing about that less perfect assimilation of fat which has been noted by various observers as true of infants nourished upon sterilized milk.

The milk-sugar by long-continued heating is completely destroyed, and is probably affected to a certain extent during the interval ordinarily allowed for sterilization.

Finally, sterilized milk is less readily and less perfectly digestible than raw milk, and if sterile milk is sought for, the present desideratum is to obtain it either directly from the animal, or by a process not accompanied by such serious drawbacks.

Such a process is believed to be the heating of the milk, after being rendered feebly alkaline with lime-water, to 155° F. for six minutes; or, still better, the treatment in alkaline solution with pancreatin at 155°, followed, if not used immediately, by momentary heating to the boiling point.

Dr. Davis from his clinical experience thinks that sterilized milk is of help in checking diarrhœa and curing enteritis, but is not adapted for prolonged use in infant feeding. He has not tried the modified plan of sterilization suggested by Professor Leeds long enough to reach conclusions as to its value.

THE HYGIENE OF UNDERGROUND RAILROADS.

THE present discussion of the subject of rapid-transit in this country gives special interest to an editorial in the *Medical Press and Circular* on the hygienic condition of the Underground Electric Railway in London. As is well known the Rapid Transit Commission has suggested the adoption of an underground road, the motive power being electricity, as in the case of the London road. The *Press* states that the air in this tunnel is remarkable for its purity, and for the absence of anything of the nature of a disagreeable effluvium. One odor is very perceptible, but it is that of ozone, produced, it may be assumed, by the action of the powerful electric currents by which the line is worked. Being *per se* a powerful oxidizing agent, it may doubtless be relied upon to hold in check the musty emanations which usually characterize these underground passages. "Indeed," says the *Press*, "a humorous contemporary suggests that, as ozone is the prime vivifying agent in the air at the seaside, in country lanes, and on mountain slopes, a few hours passed daily on the electric railway might not improbably have a decidedly beneficial effect on anæmic and oxygen-starved Londoners."

If our New York capitalists can build a rapid-transit tunnel which will carry people rapidly home, and at the same time supply them with a health-resort twice a day, they will be amply repaid by a grateful public.

THE THERAPEUTIC VALUE OF RESORCIN.

In Börner's "Medical Calendar for 1890" it is stated that "resorcin is a drug which is a disinfectant; as an antipyretic in typhoid fever it is useless, in acute rheumatism it is of less value than salicylic acid." These brief statements of its value does not satisfy Dr. H. Menche, of Rheydt, who has used the drug continuously for nine years, and who, in the *Centralblatt für Klinische Medicin*, May 23, 1891, gives the result of his long experience. In ordinary cases of the diarrhœa of infants Dr. Menche gives calomel in small doses, but if there is already some collapse he prescribes resorcin in doses of gr. ¼ to gr. iij. every quarter hour according to age. He can recall no case in which after a short time the vomiting and diarrhœa have not stopped.

He also uses resorcin in all cases of gastritis, gastric catarrh, and dyspepsia, giving it in doses of a teaspoonful of the one per cent. solution. The drug can be combined with rhubarb and other drugs, but should be put up in black bottles on account of its sensitiveness to the action of light.

Resorcin was also used successfully in the vomiting of pregnancy, of peritonitis, and in sea-sickness. It also acts well as a hypnotic in insomnia of phthisis, typhoid fever, and nervous irritability. It is considered very important indeed that the resorcin be free from all impurities, that it should be, in fact, *resorcin purum resublumatum albuminum.*

Resorcin has obtained some reputation as a valuable drug in whooping-cough, and also in certain skin diseases.

FURTHER PROGRESS IN MEDICAL EDUCATION IN NEW YORK.

The Medical Department of the University of the City of New York makes certain special announcements this year which should have a very general interest, indicating as they do a decided advance in educational methods. First: The Faculty have placed the College upon a true University basis; that is, the pecuniary interests of the College have been put entirely in the hands of a body separate from the Faculty, while the latter receive fixed salaries, and are free to give their time and energy to advancing the standard of the curriculum unincumbered by financial care. This step makes the Faculty quite independent of the number of students who may attend the college classes.

A second change consists in making the three years' course obligatory; and a third, perhaps the most important of all, consists in the introduction of the recitation system in place of the didactic lecture during the first and part of the second year.

A DRUG TREATMENT OF PNEUMONIA.

In a lecture on "Acute Lobar Pneumonia," by Dr. A. K. Hill (*New York Medical Times*), the writer states that the disease is infectious and self-limited. He then goes to mention twenty-three different drugs as being of use in the disease. The list is an interesting one: Aconite, veratrum, arnica, gelsemium, belladonna, bryonia alba, chelidonium, digitalis, iodine, epicac, the potashes, calomel, nux vomica, opium, phosphorus, rhus tox. sanguinaria, tartar emetic, sulphur, arsenicum, charcoal, phenacetine, liq. ammon. acetat. A good word is said for all of these in accordance with the indications, but perhaps the most surprising endorsement is that of vegetable charcoal, which we are told will "almost snatch a patient from the pangs of death when there is profuse cool sweat, small and rapid pulse, great prostration, dry tongue, offensive excretions," etc.

Suitable and sensible remarks are made regarding the use of nourishment and stimulants, but the large emphasis laid upon drugs is surprising. We recall to our readers an article by Dr. Fenwick reviewing the results of treatment of one thousand cases of pneumonia at the London Hospital. The conclusion he drew was that the best results were obtained by the use of ice and the ice-cradle, sponging and packs, with proper nourishment and stimulants. Instead of mentioning twenty-three drugs, he mentioned four, and spoke ill of each of them.

News of the Week.

The Lunacy Law Reform League and Anti-kidnaping Union held a public meeting at Monroe, N. Y., Saturday night. Addresses were made by the National Secretary, Miss C. C. Lathrop, and others, on the imprisonment of sane people in lunatic asylums, citing cases that have been proven in court.

The Bichloride of Gold Club, at Dwight, Ill., composed of graduates and undergraduates of the Keely Institute for the Cure of Drunkenness, occupies and has fitted up handsomely for its use the abandoned Presbyterian church in that village, which was mainly built by funds presented by the Prince of Wales on his visit to this country, when he stopped four days at Dwight to shoot prairie chickens. The club now numbers five hundred members. In connection with this announcement we are anxious to learn why the Iodide of Potash Club, of Hot Springs, Ark., does not report its proceedings more regularly. Little is heard now also of the Tuberculin Club, of Berlin, Germany, or of the Bergeron Club for the Promotion of Sulphurous Injections, at one time in active operation throughout France. It must be inferred that the flow of scientific thought pulsates very intermittently. We predict a time when even the Bichloride of Gold Club will be less heard of than at present.

The Maryland Medical Journal says the Board of Visitors of the University of Virginia, at a recent meeting, decided to make the degree of doctor of medicine a two-year course—the first session to comprise anatomy, chemistry, physiology, materia medica, and bacteriology; the second year surgery, practice of medicine, obstetrics, hygiene, and medical jurisprudence. The faculty was instructed to make the necessary changes in the classes.

Charles Dudley Warner says that the difference between the "faith cure" and the "mind cure" is that the mind cure doesn't require any faith, and the faith cure doesn't require any mind.—*Albany Medical Annals.*

It is evident that Illinois is to have an insane asylum on the Illinois River, which, following the example of New York and Massachusetts, will be under the exclusive charge of the homœopaths.

Blätter fur klinische Hydrotherapie is the title of a new monthly journal, edited by Professor William Wintirwitz, of Vienna.

Constipation a Neurosis.— Dr. Dunin, of Warsaw, thinks that habitual constipation is in most cases a neurosis, due generally to the use of purgatives. He does not think it necessarily harmful if a person goes several days without a passage. Besides dietetic and hygienic measures, he prescribes bromide of potash and antipyrin.

Japan has 40,215 physicians.

An Attempt to Establish a "Home for the Dying" is being made in London. It is proposed to raise $50,000 for the purpose. The object is perhaps praiseworthy, but it is a grewsome name.

Dr. William Mottram died of apoplexy in Kalamazoo, Mich., on Tuesday, July 2d, at the age of eighty-four. He was born at Gilbertville, N. Y., and began the practice of medicine in St. Joseph County, Mich., in 1834. He has practised continuously since that time, with the exception of two years spent in professional study in Philadelphia. In 1850 he removed to Kalamazoo, where he resided until his death. He was one of the founders of the Kalamazoo Academy of Medicine, was for several years its president, and at the time of his death was dean of the Borgess hospital staff. In 1843 he was elected a member of the Legislature, and had much to do in shaping the present educational system of Michigan. Dr. Mottram was courtly in his address, and his manner was that of a polished gentleman. He leaves a large circle of friends, both in and out of the profession.

Joseph O'Dwyer, M.D., LL.D.— At the Commencement of St. John's College, Fordham, in June of this year, the honorary degree of Doctor of Laws was conferred upon Dr. Joseph O'Dwyer, of this city.

Dr. David Matthews died at his home, in this city, on July 9th, of heart disease. He was graduated from the College of Physicians and Surgeons in 1860, and served in the war as surgeon of a regiment from Orange County. He had been a police surgeon since 1877, and was sixty years old at the time of his death.

Dr. William Dounan, who died at Burgettstown, Pa., on July 9th, had practised medicine there continuously for fifty-five years. He was eighty-one years old, and is survived by his wife, whom he married fifty-three years ago.

Professor F. Peyre Porcher, M.D., LL.D.—The University of South Carolina, at its Commencement, on June 18th, conferred the honorary degree of Doctor of Laws upon Dr. F. Peyre Porcher, the well-known physician and botanist of Charleston, S. C.

Two Deaths from Hydrophobia are reported to have occurred at Fort Wayne, Ind., within the last week.

The First Meeting of the State Board of Medical Examiners was held at Albany, July 11th. The object of the meeting was to organize and to compare views in regard to the details of State examinations in medicine which must be passed by every person who wishes to practise in this State after September 1st next. Secretary Dewey, of the Regents, previous to the discussions, said that during the year ending July 1, 1890, three hundred and eighteen diplomas had been presented by physicians of other States to the State Board of Medical Examination for license to practise in this State. Two hundred and thirty-one of these diplomas were endorsed by the State Board, forty-three rejected, and forty-four are still held under advisement. The Chairman was empowered to appoint a question board of six members, to consist of two from each of the separate examining boards, for the purpose of preparing a syllabus in all departments of examination except of materia medica and therapeutics. The conference then adjourned, subject to the call of the chair. The State Medical Society Board elected Dr. Wey, president, and Dr. Fowler, of Brooklyn, secretary, and appointed them to represent the board on the Syllabus Committee. The Homœopathic Board elected Dr. Couch, of Fredonia, president, and Dr. Paine, of Albany, secretary. Drs. Wetmore, of New York City, and Searle, of Brooklyn, were designated to represent the board on the Syllabus Committee. The Eclectic Board chose Hugh J. Linn, of New York City, president, and Edwin S. Moore, of Bay Shore, L. I., as secretary. Dr. Tuttle, of New York City, and Dr. Moore were designated to represent the board on the Syllabus Committee.

Flogging and Cerebral Embolism.—The town of Pontiac, Mich., has been torn asunder for many months by the trial of a lady school-teacher for manslaughter. It seems a wayward boy was punished last year by flogging on his legs with a leather strap. It does not appear that the skin was broken, but that there was swelling and blackness of the limb. In a brief interval after this punishment the boy was taken ill and suddenly died. The prosecution asserted that a clot from the veins of the legs caused embolism of the brain. The case was tried with all the formalities, perplexities, and animosities engendered by conflicting expert testimony, but the teacher was acquitted.

Dr. William W. Jones died, July 10th, at his home in this city. He was seventy-eight years old. He was born in this city. His father was William G. Jones, and his grandfather Dr. Gardiner Jones—a prominent physician in the colonial days, and an intimate friend of Benjamin Franklin. Dr. William W. Jones was graduated from Rutgers College, and completed his studies at the New York College of Physicians and Surgeons in 1842. For two years he was resident physician at the New York College of Physicians and Surgeons. He was a member of the County Medical Society, the Academy of Medicine, and the Physicians' Mutual Aid Association. He had been a visiting physician to the Northern Dispensary, attending physician to St. Luke's Hospital, and consulting physician to the Nursery and Children's Hospital, and the New York Asylum for Lying-in Women.

Tincture of Iodine and the Peritoneum.—Fraenkel has shown that tincture of iodine and iron salts locally may cause a sero-fibrinous peritonitis. The suggestion is made that some of the peri-uterine inflammations may be caused by the iodine applications so often made.

A Temperance Medical Congress was held at Prohibition Park, Staten Island, July 15th and 16th, under the auspices of the American Medical Temperance Association.

Man's Superiority to the Animals.—It takes four men to give an elephant castor-oil, the dose being ℥ cxxviii. We have known it to take three women and two men to give a small boy castor oil, dose only ʒ j.

Pyoktanin is a Failure as an Antiseptic, says Dr. Roswell Park (*Annals of Surgery*). It cannot be relied upon in surgery except in strength that is dangerous. As an injection in gonorrhœa, he adds: "I have had no experience with it, but find that most of those who have tried it have met with disappointment. Upon granulating surfaces it does appear to be stimulating and to exert a desirable effect, but no more so than other substances within easy or easier reach, and its stain is often undesirable. In ophthalmological practice it appears also to have scarcely come up to the requirements of the day. On the whole, then, it has but few qualities by which we are to commend it above numerous other drugs of its general class, while in all that may answer to the more scrupulous demands of aseptic surgery it has proved in my hands—as in those of others who have tested it from the purely clinical stand-point—disappointing."

Hypnotism in France.—The Society of Hypnology will meet in Paris on July 20th, under the presidency of Dr. Dumontpallier. The business to be done will include the organization of a Second International Congress of Hypnotism, to be held in 1892. Among the subjects proposed for discussion are the following: "The Relations of Hysteria to Hypnotism;" "Criminal Suggestions and Penal Responsibility;" "The Reality of Maternal Impressions on the Fœtus." Notice of communications, etc., should be sent to Dr. Bérillon, 40 *bis*, Rue de Rivoli, Paris.

How to Collect Physicians' Bills.—The rulings of the courts on the question of collecting bills are of the most intense and exciting interest to physicians, and it is with this in mind that we present a recent decision of the General Term of the New York Supreme Court. In this case a physician rendered medical services to the wife, and in a suit to recover the value of his services, made the husband and wife both defendants. On the trial the plaintiff was asked whether he relied on the husband or the wife for payment, and the question was allowed, although objection was made by the defendant. He replied that he relied on the wife. The case was decided against the defendant, and she appealed. The Court held that the question was improper, and directed a new trial. The ground of the decision was that the facts of the case were to decide who was liable for the bill, and that the physician could not settle the matter by declaring his intention to be to hold the wife responsible instead of the husband.

The Total Cost of Fees in the London medical schools is about $650, in American colleges it ranges from $140 to $300. On the other hand, the London schools give nearly twice as long a period of instruction, so that in reality the cost is about the same.

A Japanese Medical Nobleman.—The Emperor of Japan has named Dr. Hide Miyake, professor in the Medical Faculty of the Imperial University of Tokio, a member of the House of Peers.

The New York Board of Police Surgeons.—Eighteen physicians are employed by the Police Department to look after the health of the force, at an annual cost of over forty thousand dollars. These places are much sought after, as they are considered about as desirable as any in the gift of the Police Department. The doctors receive a salary of $2,250 per annum, and, unlike all the other members of the police force, are not required to devote their whole time to the service of the department. They are permitted and have ample time to attend to patients outside of the department, and many of them have lucrative private practices. The police precincts are divided into eighteen surgical districts, and to each district a doctor is assigned, whose duty it is to attend to the sick policemen in his own district. When an officer reports sick, the surgeon of the district is at once notified to take charge of him, and during the time that the officer is on the sick list he is entirely under the doctor's orders. When he is sufficiently recovered, the doctor orders him on duty again. The doctors in the service of the department form what is known as the Board of Surgeons, which is at present presided over by Dr. S. G. Cook, who was elected by his associates as Chief Surgeon. The board meets monthly to pass upon such matters connected with the health of the force as may be referred to it by the Police Commissioners. Members of the force who, from injuries received in the service or from other causes, have become physically or mentally disqualified from performing duty, are examined by the Board of Surgeons, and upon its certificate of such disability the disabled officers are retired from active service and placed on the pension roll. The Board of Surgeons is also required to make an annual report to the Commissioners upon the sanitary condition of the force and of the station-houses and other buildings used by the department, and to suggest and recommend such alterations or improvements as are deemed necessary for the health, comfort, or greater efficiency of the force.

Legible Prescriptions.—There are advantages in living under a paternal government, says the *British Medical Journal*, which even Mr. Herbert Spencer may be disposed to admit. The Austrian Minister of the Interior has recently issued an ordinance that the burgomasters of all communes must exercise strict supervision over the medical men practising within their jurisdiction in the matter of legibility of prescriptions. They are charged to see that every prescription is clearly and legibly written in all its parts, so that there may be no doubt as to the remedy, the dose, or the signature.

Tea-Drinking is said to cause cold feet.

Vaginismus has made its appearance as a factor in the plots of fiction. The *Lancet Clinic* states the romancist Viquet, in his "L'Eternelle blessu," has made a psychological study of two beings united by marriage but separated by vaginismus, in which there is a continual struggle between love and constrictors. In one chapter he describes how.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Stated Meeting, May 11, 1891.

WILLIAM T. BULL, M.D., CHAIRMAN.

Osteo-Sarcoma with Secondary Growth.—DR. SAMUEL LLOYD presented a girl, about four years of age, who, eighteen months before, had fallen, injuring the forefinger of one hand slightly. Later a growth showed itself, and when Dr. Lloyd saw the patient about seven months ago, the whole phalanx was involved in the growth, which was apparently bony. The diagnosis at this time was of probably syphilitic or tubercular ostitis. The growth was rapid. Two or three others had since appeared, one on the upper portion of the ulna of the the same member, another on the other hand. The behavior of the growths and the microscopical examinations had since led to a diagnosis of sarcoma. The parents had refused an amputation, and the treatment had been by injections of pyocyanine (pyoktanin?). The tumors which had not been injected had grown more rapidly than the others, and the side of the same tumor not injected had grown more rapidly than the injected side. If this method should not succeed the parents had given their consent to inoculation with the virus of erysipelas.

THE CHAIRMAN said he had had experience in only two cases with the method of treatment described by Dr. Lloyd, and after about two weeks the swelling and inflammation had been so increased that the patients refused further trial.

DR. LLOYD said he had arrested the growth of an epithelioma of the lip, causing it to cicatrize, by laying on it a compress saturated with 1 to 500 solution of pyocyanine.

Four Cases of Gun-shot Wounds of Cavities.—DR. THOMAS H. MANLEY reported the four cases (see p. 65). One was a case of gun-shot wound of the skull, the ball entering through the temporal muscle on the right side. It was found, after a crucial incision had been made, lying against the dura, which it had not penetrated. It was removed without difficulty. There had been no paralysis, no unconsciousness, very slight shock, no rise of temperature until the third day, when it went up to 101° F. The patient then vomited two or three times, and after the wound had been dressed complained of a violent headache, and in three hours was dead. At the post-mortem examination nothing was found to account for death. There was slight disintegration of cerebral substance.

In another case the bullet entered about an inch and a half above the left nipple, three and a half inches above the median line, passed through, penetrated the scapula an inch and a half from its outer margin, was cut down on and removed from beneath the skin. The effusion of blood was so great that the heart was thrown completely to the right side. The wound was kept open. On the fifth day the temperature went up to 104.5° F., there was local pleurisy, and decided symptoms of sepsis. He therefore enlarged the wounds freely anteriorly and posteriorly, and washed out the pleura, after which the fever subsided. The accumulation having disappeared, the heart swung into position and the patient finally recovered.

A third case was the only one known to him in this country in which a gun-shot wound of the stomach had been sutured. Like the previous patient, this man shot himself with suicidal intent. Dr. Manley saw him two hours after the injury, when he was in a state of marked shock. He vomited blood, mucus, and partly-digested food. The wound was two inches and a half below the left nipple. Performing laparotomy the peritoneal cavity was found perfectly dry, yet he felt confident from the vomiting of blood that the stomach must have been penetrated. After trying to trace the bullet toward the right kidney, where the patient complained of burning pain, he then passed the hand upward to examine the stomach whereupon blood was expelled freely from the stomach into the peritoneal cavity. Considerable difficulty was experienced in drawing the wound down so that it could be sutured. Things went along well for three or four days, until pleurisy with effusion took place, and the patient finally died. The case showed the interesting fact that there could be one or more perforations of the stomach without effusion into the peritoneal cavity.

The other case was one of self-inflicted gun-shot wound followed by both hæmoptysis and hæmatemesis, and there seemed to be no doubt about perforation of the stomach. The man was expected to die before the next morning, yet without an operation he made a good recovery. Others had reported cases of penetrating gun-shot wounds of the stomach in which, without interference, recovery had taken place.

Drainage in Abdominal Surgery.—DR. DUDLEY P. ALLEN, of Cleveland, O., read the paper by invitation. He divided the topic into three heads: 1. Is drainage of the abdomen after operation ever desirable? 2. If desirable, in what cases should it be employed? 3. When to be employed, what method should be chosen?

When treating wounds generally he kept in mind three points, namely, to observe asepsis, to bring the surfaces into and preserve them in close coaptation, and to avoid fluids accumulating between the surfaces, thereby causing them to separate. In a degree the same rules applied in abdominal surgery. The author here spoke of the accumulation of fluids in the abdomen after operations, and said he thought the tendency in this direction was not strong except there were sepsis or hemorrhage. The ability of the peritoneum to dispose of fluids was well known. If, then, there were certain forces tending to restrict the accumulation of fluids in the abdominal cavity, and also a force tending to remove them after they had collected, the question arose, what fluids could be safely left to natural means, and what ones should be removed? Those which could be left were serous oozing from wounded surfaces and small collection of blood. Fluids which were dangerous to leave were large amounts of blood, and pus or septic material. But while leaving a large amount of blood was to be deprecated, he doubted whether leaving a small amount was so objectionable as some thought it was. He strongly suspected that cases in which large amounts of serum had been removed by drainage were cases in which there was a tendency for this fluid to accumulate before the operation.

Cases Requiring Drainage.—The abdominal cavity should be drained: 1. In septic peritonitis; 2. Only rarely in cases of gunshot wounds. In the few cases which he had seen he had been surprised at how small was the amount of fecal material extravasated, even when the lumen in the gut was large. He believed that all that could be accomplished was thorough cleansing of the abdominal cavity without drainage. 3. Tubercular peritonitis. This presented itself under various forms, and might be operated upon at various stages. 4. Operations for peritonitis where pus was present, or adhesive inflammations had prevented removal of all foreign material. 5. Intestinal obstruction in certain conditions. But the impression had grown on him that where there was in these cases free fluid, not septic, in the cavity, it was not necessary to drain. But if it were plastic and infected, drainage was indicated. 6. Hemorrhage. It was better, however, to take steps to prevent much hemorrhage rather than trust to drainage. It had been his experience that troublesome and deep hemorrhage could be admirably controlled by catgut suture. He was not one who believed that a small opening in the abdominal cavity was of primary importance when standing in the way of full knowledge of the condition within. 7. Extra-uterine pregnancy. In operations for this condition drainage was

sometimes indicated. It was not always possible to completely remove the products of fœtation, and sometimes was unwise to remove the placenta. 8. Adhesions. It was his belief that divided adhesions did not furnish in themselves cause for drainage. 9. Escape of cyst contents into the abdominal cavity. When this occurred, and the fluid was infectious, no precaution for its removal could be too great; then wash and drain. 10. Pyosalpinx. Until we should know more concerning the character of pus and the propagation of various forms of bacteria, it would be wise to act on the supposition that all pus was infectious. If pus had not escaped, and the cautery were used, he would regard drainage as unnecessary. But if pus had escaped, or the operator was uncertain whether there had not been infection, or if part of the tube were left, it would be wise to drain. 11. Pelvic abscess. If pus was likely to form subsequently, there should be drainage.

In conclusion, he said that the ideal form of laparotomy was that in which the abdominal cavity was closed at once. Anything which would obviate the necessity for drainage would be a step in advance.

Dr. W. M. Polk being asked to open the discussion, said that the object of the paper was, as far as he could judge from that portion which he had heard read, to limit, if not entirely do away with, drainage. He thought all could sympathize with this object, not alone for the reason that drainage meant possible further inflammation, but also because of the possibility of the abdominal wall giving way if not properly brought together at the initial operation. He must confess that the latter objection was the only one which had much weight with him in the work which he had been called upon to do. He was well aware that a good deal had been said concerning the efficacy of intestinal drainage, but those of us who had seen patients die of peritonitis when they had diarrhœa, realized the importance of drainage. Therefore, the plan which he had adopted was to drain in every doubtful case. That implied every case which was liable to any residuum whatever in the peritoneal cavity, even if it were only ascitic fluid, the result of chronic peritonitis, which, probably, was about as innocuous as any. If the patient could not be kept quiet, use the gauze drain instead of the tube. It was to be borne in mind, however, that the gauze drain left a larger opening than the glass tube. It might be desirable to use both in a given case.

Dr. W. Gill Wylie said he could see little to object to in the paper. Like Dr. Polk, he always drained in doubtful cases. He had tried to formulate rules, but in practice had found it best to decide whether to drain or not to drain at the operation. If he washed the abdominal cavity out, he left a drain which could be removed within twenty four to forty-eight hours. It did away with the necessity for sponging, which caused irritation. He had lost some patients by not draining, but knew of no instance in which death could be attributed to drainage. An important point was the time when the drain should be removed. Where infectious material had escaped, or a portion of a pus-sac had been left in the stump, the drain should remain in longer, say three or four days, giving sufficient time for any septic material to show. The risk of hernia was practically *nil* when only a small tube was left in, and the wound was closed by suture when the tube was removed. In some cases he preferred to insert alongside the tube some gauze, although the danger of subsequent hernia was greater.

Dr. Syms would drain where there had been septic material in the abdomen, but the difficulty was in deciding whether material was or was not septic. The combined glass and gauze drain was superior to either used singly.

Dr. Clement Cleveland said that at one time he thought every laparotomy case would be benefited by the insertion of a drainage-tube, but he had long since got over that idea. At present he never used drainage after removal of a simple tumor, but limited it to cases in which there was pus, or in which, owing to separation of adhesions, there was danger of capillary hemorrhage. He favored gauze and lamp-wick.

Dr. Thomas H. Manley used the drainage-tube only where there was pus or some irritating fluid. He thought its field of usefulness was becoming more limited.

Dr. Wylie added that the drainage-tube had sometimes proved useful in cases where hemorrhage was feared, in showing whether this was or was not really the cause of any subsequent symptoms.

The Chairman said that in general he quite agreed with the suggestions contained in the paper. One disadvantage of drainage had not been mentioned, namely, the liability to troublesome sinus. It also sometimes caused inflammation in the wound. Thus, while he was disposed to drain whenever in doubt, yet he liked the idea of securing primary union throughout whenever it was safe. Like the author, he had found it exceptional that the glass tube secured sufficient drainage from dependent situations. He now relied more upon iodoform gauze.

Dr. Allen closed the discussion.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, March 11, 1891.

H. M. Biggs, M.D., President, in the Chair

Ectopion Pregnancy.—Dr. H. J. Boldt presented two specimens of this condition, in one of which, the embryo was shown *in situ*. In the first case, the patient was thirty-three years of age, had had one child and one miscarriage. In January, 1885, she was treated for endometritis and catarrhal salpingitis. On November 9, 1890, four weeks and two days after the last menstrual period, she became unwell, and suffered from cramp-like pains. The flow continued pretty constantly up to January 17, 1891, when she again came under the speaker's care. At that time, she was suffering intense pain in the right ovarian and lumbar regions, and the discharge from the uterus was thick, of a dark chocolate color, and had a disagreeable odor. The uterus was slightly enlarged and softened, and a little to the left of the median line. To the right was an enlarged and sensitive Fallopian tube; the left tube was normal. She was sent to the operation-room, but at the time of the operation, she was almost pulseless, and exsanguinated, and no tumor could be felt. It was supposed that the tube had ruptured, and on opening the abdomen this opinion was confirmed, as the abdomen was filled with blood. The bleeding tube was tied off, and the abdominal cavity cleansed with hot water and closed. Recovery was uninterrupted.

The second specimen, containing the embryo, was removed from a woman, thirty-three years of age. She had had an abortion two years before, and three children, the last one ten years previously. About one year before she had suffered from uterine hemorrhage due to a fungous endometritis, which was cured by curetting. She had had also a salpingo oöphoritis on the left side. From November 29, 1890, to January 25, 1891, she had increasing pain in the left ovarian region, and on the latter date there was a profuse hemorrhage. She was seen in consultation on February 7th, and the uterus was found to be pushed upward and forward and somewhat to the right by a tumor which was connected to the left of the uterus. The patient was exsanguinated, the pulse was 140, and very feeble, and she suffered much from periodical cramps in the region of the tumor. A diagnosis of ruptured tubal pregnancy was made, and before the operation, on the following day, there were symptoms indicating an additional intra-peritoneal hemorrhage. She also made an uneventful recovery.

Ordinarily, a case presenting the signs and symptoms detailed in the foregoing histories would lead one very readily to make a diagnosis of tubal pregnancy, and if the symptoms point to a probable intra-peritoneal hemorrhage

an operation should be promptly performed. Where such hemorrhage is quite profuse the speaker thought it was advantageous to leave a large quantity of a physiological saline solution in the abdomen, and to close the abdomen. In speaking of the prominent symptoms he had purposely refrained from referring to the passing of a decidua, for in his experience, this so-called deciding symptom had been conspicuously absent. It was also interesting to note that in all the cases which he had seen there was a history of catarrhal salpingitis, thus rendering it probable that tubal pregnancy does not occur in cases where the tubes are normal.

Dr. Boldt also presented a large intra-mural myofibroma, which he had removed by supra vaginal hysterectomy from a virgin, forty-six years of age. Profuse menstruation had been present for six years, but the tumor had given scarcely any inconvenience until about two months ago, when the incarceration of the lower lobe of the fibroid in the pelvis suddenly gave rise to very severe reflex symptoms, such as oppression about the chest, tachycardia, and intense pains along the course of all the principal nerves. The operation was performed on March 1st, since which time the temperature had remained normal, and the pulse instead of being feeble, and 140, was 80 to 90 and of normal strength.

Dr. Boldt also exhibited two specimens of fibromata which had been treated unsuccessfully by electrolysis. He had seen many cases in which electricity had proved not only useless, but actually dangerous, by causing sloughing and favoring sepsis. A perusal of the literature of this subject shows a remarkable discrepancy in the dosage of this powerful agent as employed by different operators, some stating that they use from 250 to 350 milliampères, while others find that their patients will not tolerate more than 100 to 150. The majority of patients will not bear a current above 75 milliampères. In one instance, he had proved this discrepancy to be due to the inaccuracy of the meter, and he believed that this observation applied to many other instances.

Dr. Boldt also showed a small ovarian cystoma which he had removed by opening Douglas's cul-de-sac. In the majority of cases he had found this operation preferable to the abdominal method.

A New Clinical Chart.—Dr. J. H. Linsley presented a chart which had been devised by Dr. Bailey and himself particularly to meet the demand for a quick and accurate method of keeping complete histories of cases undergoing Koch's treatment, but its sphere of usefulness was not confined to such cases.

Dr. Boldt thought this chart was one of the best of its kind he had ever seen; and when one considered the immense amount of time consumed in writing histories in the usual way, and the great liability of omitting small but important details, the utility of such a device was evident.

Dr. S. T. Armstrong said that for the past six years he had been using figures representing different sections of the body, and so arranged that they could be easily gummed to the regular clinical history forms. He had been obliged to purchase these in London, and was glad that the subject had been taken up in this country. Quite recently a Brooklyn physician called attention to the advantage of using rubber stamps representing different portions of the body.

Tubular Angio-Sarcoma.—Dr. Eugene Hodenpyl presented gross and microscopical specimens of this rare condition. They were removed with one-half of the lower jaw from a man about forty-five years of age. The tumor, which was about the size of a small orange, was situated beneath the periosteum, completely surrounding the jaw at a point midway between the angle and median line anteriorly, and involving the bone.

These tumors would seem to be quite rare, as Heidenhain, in an article published in 1890, found only ten recorded cases. The specimens under the microscope showed small acini, apparently lined with flat cells, and containing in their centres endothelial cells, and masses of blood-globules. Klebs considers these acini to be really blood vessels. In order to contrast this specimen with those of other sarcomata, Dr. Hodenpyl also exhibited two other specimens; one of a sarcoma, in which spindle cells were arranged around the blood-vessels, and of a sarcoma of the liver, where the blood-vessels were lined by endothelium, and around them were to be seen large flat cells.

Dr. T. M. Prudden thought this class of tumors particularly interesting, as their true nature was often overlooked. It was well known that sarcomata had their origin in immediate association with the blood-vessels, and that many of the characteristics which they show in the early stages, and which are dependent upon the blood-vessels from which they arose, are lost sight of as these growths continue to grow; but in the peculiar form under discussion these features, instead of being obliterated, become the predominating ones. The changes taking place in the endothelial cells, and particularly in those of the blood-vessels, merited much more careful study than they had hitherto received.

Cancer of the Pancreas.—Dr. S. J. Thacher presented such a case, which was chiefly of interest on account of the misleading character of the prominent symptoms, hæmatemesis. A seamstress, sixty-five years of age, was admitted to St. Luke's Hospital, eleven days before her death. She had been in pretty good health up to six weeks before this, when she became slightly jaundiced, and suffered from vomiting and tenderness in the upper portion of the abdomen. The stools were light-colored, and the urine dark. On admission, the history states that the liver extended from the fifth rib to within one inch of the umbilicus; there was marked jaundice, and purpuric spots over the chest and abdomen. The urine contained bile-pigment, but no sugar, albumin, or other abnormal ingredient. A day or two later there was considerable tenderness, and a sense of resistance just above and a little to the left of the umbilicus. On examination of the contents of the stomach showed absence of hydrochloric acid, and the stomach-tube brought away considerable dark, grumous material. Intense jaundice and repeated hæmatemesis were the principal symptoms, and were explained by some of the physicians as being due to carcinoma of the stomach, and by others, as a consequence of hypertrophic cirrhosis of the liver. At the autopsy, the stomach was found to be normal, as was also the heart, lungs, and spleen. The lower border of the liver was half an inch above the free border of the ribs in the right mammary line. The gall-bladder was distended with black, viscid bile, and on the surface were about one dozen nodules, apparently carcinomatous. Moderate pressure was sufficient to cause the bile to flow freely. The head of the pancreas was enlarged, adherent to the duodenum, and at this spot there was an ulcer, two inches in diameter, nodular, and infiltrated, and carcinoma involved the muscular coats as well as the other coats of the duodenum. The remaining portion of the pancreas was so greatly atrophied that is was impossible to demonstrate from the gross appearance the existence of glandular tissue.

In connection with this case, Dr. Thacher said he desired to report another, which he had examined post mortem, and which presented some similar features. A colored man, fifty years of age, was delirious when admitted to the Presbyterian Hospital, two days before his death. The friends stated that for about six months, he had had pain in his back, had vomited occasionally grumous material, and had had quite recently, jaundice, and dark diarrhœal movements, containing mucus streaked with blood. On admission, he was decidedly emaciated and slightly jaundiced, and near the umbilicus was a symmetrical, conical, and slightly fluctuating tumor. Its surface was slightly nodular, and apparently continuous with the liver substance. The urine contained some bile. His pulse and temperature were nearly normal. At the

autopsy, the lungs were found œdematous, the heart and spleen were small, and the stomach contained considerable mucus, but was otherwise normal. The gall-bladder measured 6x3 inches in diameter, and was filled with black, viscid bile, the gall-ducts in the liver were much enlarged, and the markings of the liver were dark and fairly distinct. The head of the pancreas was replaced by a large, firm, nodular mass, 5x6 inches, which pressed upon the pylorus, and sent projections into the duodenum, which were ulcerated for five and a half inches along the duodenum. To the left of this mass, the glandular tissue was atrophied, and another mass was found adherent to the left supra-renal capsule.

In answer to a question as to the points of differential diagnosis, Dr. Thacher replied that the jaundice pointed probably to pressure on the bile-ducts, and the hæmatemesis to rupture of blood-vessels, and cancer of the head of the pancreas best explained both of these symptoms.

Tuberculosis of the Lung, Showing a Peculiar Distribution of the Lesions.—THE PRESIDENT presented such a case. The patient, who was suffering from dementia, was only in the hospital for twenty-four hours when he died, almost instantly. The previous history was not very satisfactory, but there was nothing to suggest pulmonary disease. At the autopsy, the brain showed very marked thickening of the pia, with œdema, dilatation of the ventricles, and granular ependymitis. With the exception of one lung, the other organs of the body were practically normal. The upper lobe of the left lung was normal, excepting a slight amount of senile emphysema. At the upper portion of the lower lobe, were two or three small cavities, and extending down from these, a large number of cheesy tubercles, the lower portion of this lobe being filled with the minutest kind of miliary tubercles. Careful search failed to show the slightest tubercular change anywhere else in the body. Only two explanations of this condition seemed plausible, viz., either that a foreign body pneumonia had been excited by the entrance of some foreign body containing tubercle bacilli, or else that a small tubercular process had been confined to the lower lobe, until it had broken down, and that then the products of disintegration had been distributed by aspiration throughout the lower portion of the lung.

Papillary Adenoma of the Kidney.—The President also presented a specimen of this condition. It had been removed from the kidney of a man, seventy-eight years of age. These adenomata of the kidney are comparatively rare, but are more common than is generally supposed, as they are often mistaken for fibromata, tubercular masses, and in some instances, where they have undergone change, for the colloid cystic masses occasionally found in the kidney. Wechselbaum and Greunig say that after seventy years of age they occur in ten per cent. of cases, and that they are usually multiple and commonly of small size. When multiple they are very important clinically, because they are often mistaken for carcinomata, and in one case in which Dr. Keyes removed the kidney it was found to contain a very large number of these adenomata. A competent pathologist who examined the growths, pronounced them carcinomata, although a subsequent examination which Dr. Biggs had made of the recently formed tissue, showed a characteristic adenoma. The clinical history of the case also confirmed the diagnosis of adenoma, for it was nearly two years since the operation, and the patient was still perfectly well.

DR. PRUDDEN said that he had once seen in a child a lung which was very similar to that just presented by Dr. Briggs, and he had considered that the peculiar distribution of the lesions was due to breaking down of a tubercular mass, and a subsequent dissemination of these products by aspiration. He had reported some years ago to this Society a series of cases of adenomata of the kidney in which the growths were larger than the one just presented. The cases had all pursued a benign course.

The Society then went into executive session.

Correspondence.

THE HANK TRUSS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: It seems strange in these days of progress and enlightenment that we should go back, select and advocate a method of treatment that has long since been tried, found wanting, and condemned to innocuous desuetude. I refer to the article published in the MEDICAL RECORD of May 30th, on "The Treatment of Hernia by Means of the Hank Truss."

The danger of excoriation the writer speaks of, from the use of any other form of apparatus than the hank, is to be credited only to those who do not known how to apply anything that requires the slightest amount of mechanical skill, or do not wish to devote the necessary time to it.

Another statement is that considerable technique has to be acquired before protrusion can be prevented, especially when dealing with a restless child. As regards "considerable technique," there are a great many mothers who can apply this form of bandage (it isn't anything else) as well as any physician, and often do, instinctively it seems, before consulting him in regard to future treatment.

During my service at the New York Post-Graduate School and Hospital I have witnessed a number of cures effected by mechanical means alone, but there was not one of them attributable to the hank bandage. I have also removed a number of them that were put on as a temporary bandage, before bringing the child to the clinic for treatment, by the mother or by physicians of other institutions.

In not a single instance was the child being benefited by this method of treatment, or showed the slightest tendency to a cure.

Among the advantages the author claims for the hank over other forms of apparatus is the absence of spring or severe elastic pressure, therefore, a less liability to excoriation or sloughing. The statement I made in the first part of this communication covers this ground. In addition I would like to state that I have applied a spring truss to an infant seven weeks old, with a double scrotal hernia, duration since birth, both about the size of a small egg, pelvic measurement nine and a-half inches in circumference, and who was wearing a hank bandage that did not even retain a portion of the gut. In fact the right hernia had formed some slight adhesions which were readily broken up under manipulation. The above is only a single example of a number of such cases. It is not an uncommon thing for me to apply spring trusses at a much earlier age.

The truss has held him perfectly since the day I applied it, and has not even reddened the skin at any point of contact, let alone excoriate him.

There isn't any form of truss, no matter how carefully applied, but will excoriate the child if the parent is dirty in habits and neglectful.

The form of truss I use is the Hood pattern, made of German-silver, covered with rubber tubing, hard rubber front and back pads and with the exception of a short strap that connects the back pads there is not anything that water can injure; this may be removed when bathing the child without fear of the truss slipping out of place.

If that is not as simple and a great deal cleaner than the hank bandage, which, in a couple of days becomes saturated with urine, coated with fecal matter, is constantly wet, rubbing against the skin at every movement, and doing more to excoriate children than any other form of apparatus, then I am greatly mistaken. The above is no exaggeration, but is the condition I have found them in.

You can get but slight pressure, and that only over the

external ring, by either the hank or elastic truss. The bulk of the pressure comes over the upper portion of the hip, just the part where it is of no use, and you do not want it.

The regulation of pressure without removing the bandage is of no advantage whatever. The hank bandage does more to weaken the tendinous and muscular structures than any other form of truss, because it does not keep the rupture back in the abdomen where it belongs. It may possibly keep it out of sight and above the external ring, but it does not keep it out of the canal and internal ring.

Truss pressure to be of any service should be over the internal abdominal ring, and not the external. Keeping a hernia out of sight is not keeping it where it belongs. It belongs in the abdomen, and to retain it there the pressure must be over the internal ring; this cannot be accomplished by the hank bandage.

Respectfully,

S. IRVING ROOME, M.D.

NEW YORK CITY.

THE RIGHT-ANGLE CONTINUOUS SUTURE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In my article upon bowel surgery in your issue of June 27th, I remarked that so simple a stitch as the one which I therein described, and believe to be the best, must probably be known to many surgeons as a suture; but that I had not anywhere seen it noted among intestinal sutures.

To day I have received a reprint from Dr. H. W. Cushing, of Boston, which describes, and recommends as best, this same stitch, under the name of the "Right-Angle Continuous."

I worked out for myself this problem of the best suture, not knowing of Dr. Cushing's previous labors in this line. He is, of course, entitled to priority, and I am pleased to find that we are agreed as to the most desirable method. Very respectfully,

ROBERT H. M. DAWBARN, M.D.

NEW YORK, June 30, 1891.

SOME DANGERS TO WHICH EPILEPTICS ARE EXPOSED.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Having noticed Dr. Harcourt Anderson's communication under the above heading in the MEDICAL RECORD of June 20, 1891, I wish to call Dr. Anderson's and your readers' attention to a letter of mine, published in the MEDICAL RECORD December 21, 1889, entitled "How to Prevent an Epileptic Who Falls in the Street from being Committed as a Drunkard."

In my letter I published the following case: "John Wiesler, 606 East Fourteenth Street, an inoffensive, sober, poor working man, is epileptic.

Twice he happened to have an attack of his disease in the street; each time he was arrested, and, on the erroneous charge of drunkenness, first fined ten dollars, the last time sent to Blackwell's Island for ten days. He served this term from September 4, to September 14, 1889.

The man speaks German only, and had certainly no opportunity to explain himself or to communicate with his wife and child while he was under sentence.

I suggested that medals should be worn by epileptics; these medals should be familiar to every policeman; there should be a certain mode of attachment and a certain part of the body where they would have to be looked for (for instance they might be attached by means of a rubber band around the neck—like the checks of valuables in the surf-baths) and by means of these medals policemen would be enabled to distinguish an unconscious epileptic from a drunkard.

Of course the precaution suggested by Dr. Anderson is much better than the one I suggested, but unfortunately there are poor epileptics like my patient, who cannot avail themselves of this best of all protections.

In bringing the case of John Wiesler, which is only one of the great many which happen, through your columns, before the medical profession, I hoped the crying wrong described would be noticed and acted upon by some of our societies, for instance the Medico-Legal Society, but thus far I have not seen that this subject has been taken up.

I spoke of my case to Police Superintendent Murray, who approved of my suggestion. Meanwhile we gave Wiesler a letter to be carried always in his pocket, and addressed to policemen and police judges who might happen to have to deal with him again.

A. ROSE, M.D.

230 SECOND AVENUE.

THE FIRST HIP-JOINT AMPUTATION IN AMERICA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I see in your issue of June 20th, that Dr. Hubbard, of Fuerte, Mexico, undertakes to correct you in regard as to who was the first American surgeon that performed the operation of amputating the thigh at the hip-joint. Dr. Hubbard puts it as late as 1845, by Dr. John Swaf, of Maine.

If you will turn to page 640, of Vol. 11, of Velpeau's "Operative Surgery," Wood & Co., New York, 1847, you will see that Dr. V. Mott, of New York, was the first one, October 7, 1824, and it was a success The case was reported in the Philadelphia *Journal of the Medical and Surgical Sciences*, 1827, Vol. 14, pp. 101–104.

I trust that this will be satisfactory to all.

I am, yours very truly,

CHEVES BEVILL, M.D.

WINFIELD, ARK., June 29, 1891.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Dr. Hubbard's cited case in the MEDICAL RECORD of June 20th, of successful amputation at the hip-joint in America, is long subsequent to that of Dr. Walter Brashear, of Bardstown, Ky., which was performed, I believe, in 1809.

The operation is tersely described by its originator in a letter by him to the translator of Velpeau's "Surgery," written about the time that the operation of which Dr. Hubbard writes was done.

He is the subject of this reputed pun by General Jackson, at a banquet where Dr. Brashear failed to drink a toast to the further confusion of the British, "Let Brashear alone. He has them on the hip."

A point of rather unusual interest in this connection is that this operation differed from that which now bears Furneaux Jordan's name only by the absence of any attempt to save the periosteum of a portion of the femur.

I am, sir, yours respectfully,

WILL F. ARNOLD, M.D.,
Assistant Surgeon, U. S. Navy.

NAVY YARD, BROOKLYN, N. Y., June 24, 1891.

VOCAL FREMITUS IN PNEUMONIA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue of June 20th, I notice an article by Dr. C. N. Haskell, of Bridgeport, Conn., in reply to mine of an earlier date, upon "The Diagnostic Value of Vocal Fremitus in Pneumonia." I am very glad that the question has been raised, for it makes us think, and thinking will make us brighter and better observers of what exists. I wish, however, the writer had confined himself to direct

personal observations instead of indulging in a repetition of old-time assertions. Imputing ignorance to me adds no strength to his own argument. His opinions may be valuable, but the facts are what we want.

Allow me to point out some of the inconsistencies of his position. In his opening paragraph he says (and rightly too): "There may be cases of pneumonia in which the bronchi, large and small, are completely filled with inflammatory products. In such cases vocal fremitus may be absent." But farther on, describing a typical case of pneumonia in which the air-cells and infundibula are filled with exactly the same products, he claims that vocal fremitus is increased. We agree that "the art of physical examination depends upon fixed laws." By what freak of those laws can he explain the absence of vocal fremitus in one case and its increase in the other? The conditions are just the same except in degree.

Can any logical mind fail to see the point? A certain amount of infiltration, as in ordinary pneumonia, increases vocal fremitus; but, *mirabile dictu*, a little more of the same sort stops it altogether!

O! But he explains: "A large bronchus is plugged, which prevents the vibrations from reaching the consolidated tissue." How can it if that plug is a better conductor of vibrations than the air?

Of course the plugging of a large bronchus will diminish vocal vibrations. That is just what I have tried to show. It was the "Newton's apple" which first attracted my attention. Will not the plugging of a small bronchus, a bronchiolus, or even a minute air-vesicle do the same in its proportionate degree? Do I make myself clear?

He objects to my comparison of the violin which Professor Leaming declares in his work "is formed on the model of the human chest." Very well, I will not insist; let him take the chest itself. Authorities agree that vocal fremitus is increased with the formation of cavities. Develop this thought a little. Remove one entire lung from the thorax, and make a cavity as large as you can. Insert a tube into the glottis, and produce fremitus with your own voice, place your hands upon the chest-walls as in palpation, and tell me upon which side you find the greater thrill. I think you will say the empty one. Very well, if normal lung-tissue is a hindrance to vocal vibrations because of its bulk, with even its slight density and elastic cells, how much greater must be its resistance when that density is increased, that elasticity gone, and those cells filled with the products of inflammation instead of air.

It is a good thing for a man to leave his medical primer once in a while and think for himself.

Respectfully,

J. P. RAND, M.D.

ALBUMINURIA IN ITS RELATION TO LIFE INSURANCE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I have just had my attention called to the editorial in your issue of the 20th inst. on "Normal Albuminuria." The subject is of the greatest importance to insurance companies and also to all persons who desire to avail themselves of this means of providing for their families. I think that albuminuria is a very much rarer condition than we are led to suppose. My own investigations of over three thousand applicants during the course of a year showed a percentage of $1\frac{1}{10}$. The urine was carefully examined in each case by competent examiners and either heat and nitric acid, or the cold nitric acid (Heller's) test was used. I am certain that the percentage given by Dr. Lewis, of Hartford (six to ten per cent.), is entirely too high, unless he used some of the very delicate tools, which in my opinion are not available for life insurance work. I am certain that heat and nitric acid are sufficiently accurate for our purpose, and, moreover, I think that our statistics should be based upon one standard test in order to be of any value. My percentage may be rather low and I am willing to concede an average of about three per cent., but this, I notice, is what you quote as being the mortality for kidney disease. I therefore conclude that in the usual tests for albumin most companies require we have a sufficient measure to exclude most cases of kidney disease, and that there is no necessity whatever for our using the very delicate tests, as Posner's picric acid, etc., which show traces of albumin that alarm us unnecessarily.

There are (very rare, I believe) cases of transient albuminuria that would be safe for companies to take for short endowments, but under the limitations as given by Dr. Davis, of the Union Central Life, in his excellent paper recently published by you.

Yours truly,

JOHN M. KEATING, M.D.,

Medical Director, Penn Mutual Life of Philadelphia.

June 22, 1891.

MERCURY BY INUNCTION OR INJECTION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I read in the MEDICAL RECORD of May 23d, ult., a communication from Dr. J. Hunter Wells, in which he refers to the fact that the injection method (*i.e.*, of mercurials) is not yet popular in this country.

I am of the opinion that it is not yet popular in any country. In 1889 the method was still under trial in the clinic of Professor Kaposi at Vienna, one of the trials resulting in the death of a strong woman of some thirty years of age, on whom three (3) injections had been made. At the autopsy, extensive gangrene of the tongue, floor of mouth, and contiguous parts was found. Such accidents are calculated to interfere quite seriously with the popularity of the injection method.

The painfulness of the method will always be a great objection to its use with persons of sensitive skins.

As far as I was able to observe, the inunction method was the popular one in all the great clinics of Vienna and Paris; that of Professor Fournier possibly excepted. Professor Fournier preferred the administration of mercuric protiodide by the mouth in the great majority of cases. In cases of syphilitic iritis, Galizowski always immediately prescribed mercurial inunctions.

Farther on in his communication, Dr. Wells speaks of palmar psoriasis. I judge that he means syphilis affecting the palm; but why not say palmar syphilis? why use a name belonging to another well-defined disease? If the physician cannot make the differential diagnosis between syphilis and psoriasis the appellation syphilitic psoriasis may prove exceedingly handy. He can treat for syphilis and failing to cure, resort to treatment for psoriasis, and when he at last ascertains what disease he has had on hand, triumphantly exclaim: "I told you so."

E. WETZEL, M.D.

DENVER, COL.

AN UNNAMED FEVER OF THE SOUTH.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the MEDICAL RECORD, of May 30th, is an article by Dr. T. R. Evans, entitled: "Is the Contagion of Typhus Fever always Imported?" He describes fifty-two cases of continued fever, treated by himself at a mining village in Western Virginia, and takes the view that they were cases of typhus generated spontaneously in that locality. I have no doubt of the fact that the fever observed by him is the same as that seen very extensively in many portions of the country, particularly in the more Southern States.

My reason for writing now is to take exception to his diagnosis, and to call attention to what I believe is the

producing cause of the fever in a large proportion of cases.

In a lengthy discussion of the subject, several years ago, in the Birmingham, Ala., Medical Society, there seemed to be an equal division of opinion as to its being of typhoid or malarial origin.

It was my fortune to treat nearly three hundred cases of this fever at a mining settlement in Alabama, where my opportunity for studying its character was excellent. In none of those cases did I see indications which led me to believe that they were produced by the poison of either typhoid, typhus, or malaria. There was no delirium, except in a limited number of cases, and then only for a few hours, when the fever was at its highest.

Constipation was the rule, and the intestinal symptoms of typhoid were never present, with the exception of hemorrhage in two cases. Epistaxis was present in but two cases. The eruption of typhoid or typhus was never observed, although sought for in many cases. One point alone would exclude either of those fevers, and that was the termination, every case ending in complete recovery, except one, which was accompanied by glaucoma, and the loss of one eye.

The houses were built of rough plank, were unceiled, and had full ventilation through the many cracks in the walls and floor. Overcrowding was not usually found. Malaria was excluded by the regular continuancy of the fever, and the total absence of results from the use of quinine.

The fever usually made its appearance gradually, and went off in the same manner, the evening temperature being as a rule the highest. The duration was from two days to six weeks. The temperature ranged from 100° to 103° F. in the milder cases, to 106½° F. in the most severe.

I have stated what it is not, without being able to say just what it is.

Typho-malaria is a misnomer, so far as this fever is concerned. I have found no description of it in the standard works, but have read discussions of it in the proceedings of the various Southern medical societies, and have seen several articles in reference to it in the medical periodicals, mostly from men residing in the South.

Cause: Anything which weakens or exhausts the system will be a predisposing cause. Thus, I have seen it follow immediately a fatiguing railroad and carriage ride. One case accompanied continued vomiting of pregnancy, and saw its regular course, although the vomiting ceased in the beginning of the fever. Overwork, mental anxiety, and insufficient or improper food are other causes. I believe, however, that in the large majority of cases, the direct cause is the use of impure drinking-water.

By impure water I do not mean necessarily such as is contaminated by germs of the disease, if such exist, or even water rendered foul by the presence of sewage or other animal matter, but water containing a too large percentage of organic vegetable matter. Such water usually proceeds from springs and wells located in woods, or where leaves and other vegetable substances are allowed to decay, and the sewage therefrom to find its way into the sources of the water supply.

At the mining town in which I was located the population was supplied principally with water from three wells and six or seven springs, the latter mostly flowing only in wet weather. One of the wells, which supplied fifteen or twenty families, was in the centre of an old field containing no trees or shrubbery of any kind. Although quite shallow, the water sometimes approaching the surface near enough to be reached by hand, there was but little opportunity for contamination. Not one case of fever occurred in any family using water from that well. Of the other two one was dug on a hillside in the wood with a small growth of trees above it. It however went several feet into the rock and most of the surface drainage was carried off. A number of the roots of trees were cut in the digging, their ends projecting into the well. Leaves could also fall freely into it. Of the families using from that, only two or three cases of fever in a mild form, each lasting only three or four days, were met.

The third well, two or three hundred yards distant, was in the bottom of a depression running through the woods, and received freely the surface drainage from all sides. Much clearing had been done around it and the tops, leaves, roots, and stumps, were allowed to remain on and in the ground. The water was still further contaminated by the habit the children had of throwing various substances into the well. Of the twenty or more families using from it, not one escaped, and there was rarely a time when one or more cases of fever could not be found in each house, as long as the people continued to use from the well. Rough testing with permanganate of potash showed the water to be foul. The second was much less so, and the first scarcely at all. As soon as the use of the water was suspended, the fever began to abate. One family, however, continued to use it to some extent, and continued to have fever.

As the summer advanced, and the springs began to run low and the process of decomposition to advance, families using therefrom began, around first one and then another of the springs, to have fever, until finally all but one, having been tested, were condemned. The purest water of all was obtained from the interior of the coal mine itself.

The writer, the young men who conducted the store and office, and several families who used water from the mine, escaped fever altogether, though living only a stone-throw from the centre of the fever district, around well number three. There was, however, one exception, as I at first supposed. One of the store-men was taken sick with the fever, and upon investigation it was found that the porter had been in the habit of carrying water for him from one of the condemned springs, instead of the mine.

I observed the same fact as related by Dr. Evans, that the men were much less liable to fever than their families. I attributed that to the fact that they were in the mine during the greater part of the day, and used the water there, while their families used what came from wells and springs. The fever prevailed almost entirely during the summer and fall, and could not have been due to crowding and imperfect ventilation.

Since returning to this locality I have met during the summer and fall a number of cases of the same fever, and have found that the water supply in such cases, this being a new town, has been from springs similar to those described. One family living several miles from here, under the care of another physician, had fever continuously for several months during the fall and winter. In passing I observed that the spring came from beneath the site of a deserted saw-mill, and a large mass of decaying sawdust was getting in its work. I have been told by a missionary from Japan that they never dare drink the water there without first boiling and then filtering, or fever would be the result. He attributed it, however, to the amount of human excrement used as manure, but could not give a description of the fever.

I have called attention at other times to drinking-water as a cause of the fever, but have seen no special reference made to it by others, in the reports of discussions, etc., which I have read and heard. In the Blue Grass region of Kentucky this fever is unknown, and I suppose the same is true of a large portion of the North and West, where the land is under a high state of cultivation, and the same causes do not prevail, although crowding and poor ventilation must be more common than in the South.

In the South, however, we find large forests and masses of decaying vegetable matter to contaminate the water, and in consequence one-half of the practice of many physicians is in treating this anomalous fever.

Will others take this idea up, and make more thorough chemical and microscopical researches along the same line, than I have had the opportunity of doing? Cannot someone also give it a name sufficiently descriptive, to justify its universal acceptance, and thus prevent its sail-

ing under the false colors of typhoid-malaria, typho malaria, bilious, typhus, etc.? The treatment should be mainly preventive, as indicated above. Look well to the source of the water-supply. As to the medical treatment, the arseniate or sulphate of strychnine is useful in the beginning. Antipyretics during the attack, cold water sponging, acetanilid, antipyrin, etc. Mineral and vegetable acids are useful and grateful. Tonics of iron, quinine, strychnine, and phosphoric acid at the close. Occasional laxatives, of which calomel seems the best, are indicated.

Alcohol was given to none of my patients, and I have not yet met a case in which I thought it indicated. All cases recovered, under any or no treatment, except absolute rest in bed and proper diet, which must in all cases be insisted upon. Quinine is not only useless, except as a tonic, but renders the patient more uncomfortable if given in full doses.

W. A. PLECKER, M.D.

GLASGOW, VA., June 9, 1891.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 5, 1891, to July 11, 1891.

IRWIN, BERNARD J. D., Surgeon. Relieved from duty at St. Louis, Mo., and ordered to Chicago, Ill., for duty as Medical Director, Department of the Missouri.

BANISTER, W. B., Assistant Surgeon. Granted leave of absence for fourteen days.

BUELL, JAMES W., Assistant Surgeon. Is retired from active service, by reason of disability incident to the service.

OWEN, WILLIAM O., JR., Assistant Surgeon. Detailed to attend the encampment of the Illinois National Guard, near Springfield, Ill., from July 18 to 25, and August 11 to 18, 1891.

Official List of Changes in the Medical Corps of the United States Navy for the week ending July 11, 1891.

BOYD, ROBERT, Assistant Surgeon. Ordered to the Dale, Washington, D. C.

New Instruments.

AN ECONOMICAL COTTON RESERVOIR.[1]

BY WENDELL C. PHILLIPS, M.D.,

ASSISTANT SURGEON TO THE MANHATTAN EYE AND EAR HOSPITAL, THROAT DEPARTMENT.

THIS reservoir is a labor-saving and convenient device for office and dispensary use. The base is solid and of sufficient weight to hold the reservoir down while cotton is being withdrawn from any one of the spaces at the top. To the base a strong wire coil spring, surmounted by a flat metal plate, is attached. The remaining section is simply a metal cylinder, divided at the top into spaces, through which any amount of cotton desired can be drawn. At the lower end of the cylinder are grooves which catch upon pins at the base and hold it in position. When using this appliance the probe or applicator can be retained between the thumb and forefinger of the right hand ready for use, while with the left hand the exact amount of cotton required can be withdrawn and applied directly to the probe, thus saving fully one-half of the time required when the mass of cotton is held in the left hand or an ordinary receptacle, which necessitates the use of both hands.

By the use of this appliance the cotton is kept clean and none is wasted, which will be especially appreciated in hospital and dispensary practice, where there is always so much waste in materials of this kind.

Since this cup was made I have arranged to have covers made to keep the dirt and dust out when not in use.

The appliance was made for me by Mr. Ford, of the W. F. Ford Surgical Instrument Co., New York.

[1] Exhibited before the N. Y. Academy of Medicine, Section in Laryngology.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 11, 1891.

	Cases.	Deaths.
Typhus fever	3	0
Typhoid fever	25	4
Scarlet fever	152	30
Cerebro-spinal meningitis	3	5
Measles	239	13
Diphtheria	99	27
Small-pox	0	0
Varicella	1	0
Pertussis	5	3
Erysipelas	0	0
Mumps	0	0
Rötheln	0	0

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Original Articles.

SOME PRACTICAL SUGGESTIONS FOR DEEP URETHRAL MEDICATION IN THE TREATMENT OF POSTERIOR URETHRAL CATARRH.[1]

BY E. L. KEYES, M.D.,

NEW YORK.

MR. PRESIDENT AND FELLOWS OF THE ACADEMY: When I was asked to add my voice to the entertainment which the Section I help to represent is expected to afford you to-night, I cast about me for a subject which, while as free from technicality as possible, might yet be far-reaching enough to interest the greater number, and at the same time probably provoke from the fellow-members of my Section a discussion profitable for all.

I have been unable to select one which seemed to me more appropriate than the one I have chosen. For posterior urethritis has become of late years a malady very well recognized by those who deal closely and often with genito-urinary cases, and its management is much simpler than what it was a few years ago; yet there exists in the profession at large, seemingly, a lamentable ignorance about it, which leads to much misconception and a considerable amount of mismanagement of cases, the diagnosis of which is very easy and the treatment of which may be successfully carried out by anyone in many instances without calling for expert skill in the use of instruments. I have certain ideas on these subjects, ideas which have brought me to the satisfactory conduct of some very stubborn cases, and if a display of these in a general assembly like the present can lead the mind of anyone, until now unaccustomed to make distinctions, to a little more thoughtfulness and the exercise of something like logic in the diagnosis of gleet, and in that way to a more general application of reasonable therapeutics, I shall feel repaid for whatever effort this paper may cost me.

A gleet, as we all know, is not a disease. It is simply a symptom of some morbid condition, the nature of which it should be the function of the physician to determine; and it is as irrational to prescribe for a gleet, in any hope of curing the malady which occasions it, as it is to prescribe for cough with the same end in view without first by physical examination endeavoring to ascertain the source from which the symptom derives; yet my experience leads me to believe that in the profession at large the opposite course obtains, and that a gleet is treated in a routine way by the vast majority of practitioners, either by injections and internal medicine, or by sounds, or internal urethrotomy, or all, according to the imagination of the prescriber, which leads him to generalize as to the causes of gleet and the methods of curing it.

This generalization is based upon the very undeniable efficacy of injections in most gleety conditions, and upon the wide-spread and very proper belief that one of the most constant symptoms of urethral stricture is gleet.

Such a generalization would be not unprofitable in a therapeutic sense if anyone were in a position to say exactly what stricture is; but the modern doctrine of stricture of large calibre has rendered this well-nigh an impossibility, for every natural undulation of the canal may be so classed by the physician who is properly impregnated with the large calibred stricture idea, and he is sure to find what he looks for in every case of gleet.

And so it turns out in many and very many an instance. When a patient with a gleet seeks advice, his physician has no thought of, perhaps little knowledge of, the possibilities and the prevalence of posterior urethritis; he neglects to make the very simple tests by which posterior urethritis may be demonstrated, and he first injects his patient and dilates or cuts his urethra, on the stricture theory—often to the considerable detriment of his patient, who finds himself after the treatment with his gleet still persisting, and the added discomfort of a wide-mouthed dribbling urethra, which never clears itself entirely after the urinary act, or possibly a permanent deviation of the penis from the correct line during erection (as a result of over-cutting), or a relapsing epididymitis or permanently irritable bladder from the injudicious use of very large sounds.

I make this general criticism not as directed against any urethral therapeutic measure, or any school of thought in urethral pathology. I personally believe in, advocate, and practise the cutting of anterior (and some posterior) strictures, of large as well as small calibre, when, but only when, they can be demonstrated to be the cause of the gleet which is to be overcome. My criticism is directed against the indiscriminate employment of a method, most useful when appropriate, and against the frequent neglect of such a study of the case as would lead in many instances to a direct localization of the cause of the gleet in the posterior urethra, and thus save the patient unnecessary mutilation, and the general body of the profession many animadversions from the laity.

I speak of what I do know, and can state honestly that the vast majority of cases of chronic gleet which come to me or are referred to me for advice, have already been cut anteriorly in the urethra from one to eleven times, and that very few of them have ever been tested by their attendants, or any effort made to ascertain whether they had posterior urethritis or not.

Such a state of affairs is not professionally creditable, and although neither I nor anyone (in my opinion and belief) can tell you how to cure every case of posterior urethritis, still one may easily learn how to cure many, and diagnosticate all cases, and at least may know what he is treating and how to direct his fire against it, rather than to take a random shot into the bushes in the hope of bringing down some game, because, forsooth, some feathers are seen on the boughs.

Gleet is really an insignificant matter (unless still virulent, a point I do not care to touch upon in this paper), and if a like amount of mucus or muco-pus escaped daily from a man's nose, or mouth, or anus, or even his ears or eyes, it would generally discomfort him not at all, or certainly much less than it does when he sees it exuding or milks it out of his urethral canal. Gleet must be classed with the little miseries of life, like shirt-buttons, and corns, a mother-in law, a wrinkled stocking, a cross in hopeless love; yet philosophers have discovered that it is the sum of these little miseries that make up the real woes of life, and there are few of us who have not seen a very sensible man driven nearly to the verge of desperation and despair by the very insignificant torture of a protracted urethral discharge; therefore it is worthy of consideration, and any means tending to modify it is deserving of respectful contemplation.

The morbid conditions capable of producing a gleet are very many, so many that I shall not weary you by

[1] Read before the New York Academy of Medicine, May 21, 1891.

enumerating them here, since it is my intention to deal only with that variety dependent upon posterior urethral catarrh. I need only say that when a gleet is due to anterior urethral catarrh, caused by stricture, granulations, or what not, the source of the pus may be demonstrated without the endoscope by gentle, thorough, hot irrigation of the anterior urethra by means of a soft catheter passed into the sinus of the bulb, and the immediate subsequent use of the simple metallic bulbous bougie, provided the meatus be reasonably large; for if the pus comes from granular or strictured portions of the pendulous urethra, the irrigation will only wash away what lies loose in the canal, and the bulb will subsequently bring forth upon its shoulder soft muco-purulent clots generally tinged with blood, which have been scraped off the excoriated areas from around which the inflamed mucous membrane secretes whatever free pus exists. There may be tight areas which the bulb will detect, but if there be not a granulating surface upon the tight area or behind it which the bloody muco-purulent clots on the shoulder of the bulb will demonstrate, or their absence disprove, then the cutting of such tight areas will not, in my opinion, favorably modify a given gleet in most instances. Yet, even allowing that there be some tightish areas, and even granting that they be moderately granular, still, if there be posterior urethritis the cutting of the tight areas, although it may greatly moderate, will not cure the gleet, and the patient should be so informed before any cutting operation is undertaken; or he is quite sure to be disappointed, and often to misjudge the physician who has been zealously working for his relief.

Therefore, again, it is desirable to recognize the existence of posterior urethritis, even when it is associated—as is often the case—with coincident anterior urethral catarrh; and the manner of doing this is so simple that it is surely worthy of being put on trial. Indeed, this diagnostic method is so well and so generally known that I almost hesitate to present it before a body of gentlemen so well equipped in general knowledge as the members of this Academy certainly are; yet its constant neglect in good hands emboldens me and fortifies me in reiterating it with emphasis before you.

When there is posterior urethritis, from whatever cause, the quantity of pus lying in the urethra behind the bulbo-membranous junction is disproportionately great when compared with the amount of gleety discharge that appears at the meatus. This may be easily demonstrated.

When pus forms in front of the triangular ligament, it readily and promptly, for the most part, favored by gravity and the fact that the urethral walls lie in contact with each other, reaches the meatus. When it forms behind the bulbo-membranous junction it more readily takes the opposite course, flowing backward into the prostatic sinus and into the bladder.

When, therefore, a case of gleet is examined, if the urethra be milked by firm pressure with the finger, from the perineum forward, until all the pus that will come be squeezed out and then the patient be instructed to urinate in two parts, into separate glasses, if he have even moderate posterior urethritis the quantity of pus mixed with the first urinary gush, representing the washing out of the deep urethra, will be disproportionately great when compared with what has flowed out spontaneously from the meatus or been milked out by the physician before the urinary act, as shown by gross inspection of the specimen. And if the grade of posterior urethritis be intense, not only will the first urinary gush be purulent, but also the entire second urinary flow will be turbid with pus. In case of doubt the anterior urethra may be irrigated before the urinary test in two flows is applied.

The one obvious source of error here is a focus of suppuration in the substance of the prostate, in a seminal vesicle, in the bladder, or in the kidney.

The differentiation of these sources of purulent flow opens up a field rather too wide to be critically considered in a paper of the limited length my time affords. Suffice it to say that prostatic and seminal vesicular suppuration may usually be demonstrated by a milking of the prostate and seminal vesicles by a finger in the rectum, between the first and second urinary flows, a portion of urine being retained in the bladder to be ejected in a third urinary flow and the specimens examined microscopically after settling.

Bladder and kidney suppurations, although they may occur in company with both anterior and posterior urethritis, and will of course render all the urinary specimens turbid with pus, are beyond the scope of this paper and need not be considered.

The commonest kind of posterior urethral catarrh, ordinarily following a protracted gonorrhœa, is the one upon which I prefer to concentrate my and your attention.

Its clinical picture is this: A patient has gonorrhœa following a more or less protracted course, perhaps complicated toward the end with swelled testicle or a more or less pronounced attack of gonorrhœal cystitis or vesical irritability, and then subsiding into a condition of mild gleet. Such a patient procures some, as he conceives, suitable injection, and as long as he continues to use it once or twice a day his urethra remains apparently dry, and he considers himself well. Within a day or two, however, after leaving off his favorite injection the discharge reappears and goes on to reach a certain grade of intensity, possibly without other symptoms, or perhaps accompanied by itching or discomforting sensations in the anterior urethra near the meatus, or referred to the perineum, and sometimes accompanied by a little urinary urgency and precipitancy. Such a man, even while keeping down his show of gleet by means of injection, will notice that if he drinks wine or spirits, or if he indulges in sexual intercourse, especially to excess, or even if he has a nocturnal emission, that his show of gleet will certainly become promptly aggravated. These are the cases that get a new gonorrhœa every few months, and those who claim to have acquired a new discharge from perfectly healthy women—and their number in the community is considerable.

They are cases of posterior urethritis often pure and simple. They fly from one nostrum to another, and from one physician to another. Sooner or later all of them have the anterior urethra widely cut for alleged stricture of large calibre, and some of them by this means receive temporary, others permanent, benefit—when the membranous urethra is the seat of soft stricture which keeps up the posterior urethritis in their particular cases, and when the deep urethra will tolerate the passage of sounds without resenting the traumatic violence thereby inflicted.

But this factor of deep urethra tolerance to sounds does not by any means always exist, and the sequel to the cutting and the passage through the deep urethra of large dilating instruments is quite often an aggravation of the discharge and a lighting up either of mild cystitis, prostatitis, or epididymitis.

This picture is surely a familiar one to many of you.

Take such a patient at his best, between his acuter attacks, when he thinks that he is keeping himself well, as he calls it, by the use of an injection, and when he has no visible show of gleet—and ask him to urinate in a glass. Floating about in the urine will be noticed cottony chunks and irregular masses of fleecy muco-pus (not simple compact linear shreds), and more or less free pus. This patient is playing the ostrich rôle, and ignorantly imagining that because he sees nothing there is nothing to see, when all the while the drops of pus are oozing backward in his urethra and being washed out by each urinary act—drops which, if they did come forward and show at his meatus, would convince him that his injection was a snare, and only a mask to conceal the presence of the enemy.

If one of these little fluffy, cottony chunks that float about in the urine be caught up in a pipette and examined microscopically, it will be found to be made up of more or less closely arranged rows or layers of pus-cells,

strung out in striated films of colloidal prostatic mucus, entrapping the larger oval and rounded succulent cells from the neck of the bladder, some granular bodies, occasionally a crystal of oxalate of lime or uric acid, occasionally a stray spermatic element or a sympexion, sometimes a perfect hyaline prostatic cast—a cast to deceive even the elect, especially when, as is often the case in patients showing prostatic casts, particularly if there be also spermatozoa, the urine contains a faint trace of albumin.

A case like the typical one I have just described is often posterior urethritis pure and simple; there may be a small meatus and points of physiological anterior narrowing, but often the posterior urethra is alone at fault and is responsible for the relapsing attacks of urethritis, and for the mild persistent gleet.

The sceptical among you may well ask at this point, if this be a case of pure posterior urethritis, why does any of the discharge at all show at the meatus, and why does an injection, which does not reach the alleged diseased area behind the triangular ligament, so positively moderate or even control the anterior discharge, at least in so far as causing it to cease to appear at the meatus is concerned. The explanation is easy.

Although the focus of disease is posterior to the bulbo-membranous junction, yet the congestion extends forward along the mucous membrane into the sinus of the bulbous urethra, and from this point a moderate oozing of pus occurs—as well as, to a very moderate extent, from the true focus of disease behind the bulbo-membranous junction. Now, the injection reaches and acts as an astringent upon the turgid vessels in the bulbous sinus, and the astringent exerts itself along the continuity of mucous-membranous surface to a moderate extent into the membranous urethra and beyond the bulbo-membranous junction, and a repetition of the injection by a continuance of astringent action keeps down the discharge without reaching or curing the actual focus of disease itself; for if the anterior injection be too strong or be forcibly crowded back too far, cystitis or swelled testicle is, as is well known, a not uncommon result.

That a local application, acting simply upon the livid congested membrane in the sinus of the bulb, may control a gleet without curing it can be often demonstrated by touching this livid membrane carefully with an astringent through an endoscopic tube; and that an application made on one side the bulbo-membranous junction extends its influence more or less to the other side may be also demonstrated by making a membranous urethral instillation of nitrate of silver, ever so carefully, and then inspecting the mucous membrane of the bulb, anterior to the triangular ligament, through an endoscopic tube. This spot, before of a more or less livid red, shows the pale white staining of the nitrate of silver solution. This fact was first observed and pointed out to me by Dr. James P. Tuttle; the only possible criticism upon its accuracy is that a minute portion of the silver solution has followed the injecting instrument on its withdrawal, in spite of all precautions taken.

But my subject drags. I came here to make some practical suggestions to cure posterior urethritis, and must hasten to that point. My suggestions are certain substances to be injected into the seat and focus of the disease with the deep urethral syringe. The method is not new, some of the substances are not ordinarily in use.

I do not at all claim that posterior urethritis must be treated locally to get well. On the contrary, most cases ultimately get well, and they do so without local treatment. Rest, the balsams and alkalies, the demulcent drinks, counter-irritation, time, change of air, sea trips, treating the anterior urethra, iron in chronic cases—all these things are potential, and most of them can be happily combined with the local posterior treatment, to the great advantage of the latter, and their co-operation is sometimes essential to the rapid and perfect effectiveness of the posterior treatment. I do claim, however, that most cases are suitable for local direct treatment, and that such cases under suitable local applications improve with a rapidity which is gratifying to the physician, and quite obvious to the patient; and I claim further that by recognizing the malady and treating it locally, many a urethra may be spared the use of the knife, and very much time saved.

Finally, I state candidly that a few cases are positively unsuited to local treatment, and get worse under it, no matter what substance is injected. To this class belong most tubercular cases and some simple inflammatory, and some ordinary gonorrhœal cases. When, however, the treatment disagrees, the symptoms (notably the discharge of pus) become so promptly and so obviously aggravated, that the futility of repeating the application becomes at once clear, while very little time is lost in making the test. I may add finally, that there is practically no danger of producing cystitis or epididymitis, if the instrument be used carefully, and not inserted too far. The risk of occasioning these complications is vastly less, according to my experience and belief, than that incurred by treating the malady with anterior injections or with sounds—or indeed less than is the risk of these complications if it is left untreated locally, and internal medication be relied upon.

The instrument I employ is the syringe that bears my name. It is founded upon Ulzman's model, and is superior to the latter in being made in one piece, so that no injection soils the fingers, and in being more solid. Guyon's syringe has a bulb at its extremity and injects backward. It must, therefore, be introduced through the inflamed area to be effective, a manœuvre which inflicts unnecessary mechanical violence upon the tender parts. The same objection obtains in the case of all syringes having lateral holes or slits. My syringe and that of Ulzman have only one minute opening at the tip. This tip need be inserted only just within the hole in the triangular ligament, just beyond the bulbo-membranous junction. So inserted, the membranous urethra grasps the tip of the instrument and the contents of the syringe—twenty minims or more—may be gently thrown in, and the entire injection will quietly flow backward along the membranous urethra, through the prostate, and into the bladder, with as little violence as possible, not one drop escaping at the meatus upon the withdrawal of the syringe. The little air sucked up into the syringe upon charging it may be disregarded, as it remains at the top of the instrument and in its tube, and need not be discharged into the urethra.

Formerly, in using strong injections I deemed it important to throw in only a very few drops at the diseased focus. Now I endeavor to produce my result by using much milder injections than formerly, and I throw in the entire contents of the syringe in every instance, except where nitrate of silver is used in a strength greater than ten grains to the ounce, when I use a few drops only. I increase the strength of injection of a given substance only gradually, after establishing a tolerance of the milder strength, and in this way I avoid irritation, formerly more common. When the source of the flow of pus is reasonably well forward in the membranous urethra, I generally make the injection before the patient urinates. When the inflammation extends farther backward and the supply of pus is considerable, I cause the patient to urinate just before making the injection, so that the injected fluid may flow into the bladder and become applied thoroughly to the mucous membrane at the internal prostatic urethral orifice, without being there diluted or neutralized by coming into contact with urine in the bladder at this point.

In suitable cases the free pus first disappears from the second urinary flow (the urine being voided in two parts), then it disappears entirely from the urine, some shreds still remaining. These are attacked by increasing the strength of the injected fluid, or, if there be some stricture in the membranous urethra, by the safe use of sounds after the catarrhal surface has been modified by the previous use of

the injections, combined often with anterior astringent injections, which the patient administers himself.

I have employed in deep urethral injection most of the substances which have repute in controlling the flow of pus from mucous membranes, even Pond's Extract. Such substances as hydrastin, boro-glyceride, nearly all the lead and zinc salts, iodoform, creolin, pyoktanin, etc.; but at the present writing I have come to rely almost exclusively upon four substances—the sulphate of thallin, the glycerole of tannin, the sulphate of copper, and the nitrate of silver. I never now make a preparatory injection of cocaine, as I consider it unnecessary, often harmful.

The Sulphate of Thallin.—This I consider a very valuable drug. Its chemical name is tetrahydrotarachinanisol. It was introduced into anterior urethral medication as an ordinary injection, with words of high praise, by Goll, of Zurich, about five years ago, and since that time has constantly appeared as one of the ingredients of the antrophore, an instrument of torture, when employed in the deep urethra, which I only mention to protest against. I am not aware that anyone else has employed it in solution for deep urethral medication. I have so used it for about four years, and always with increasing frequency and confidence. It is bland and practically unirritating, and may be used up to a saturated solution, which is about twenty-four per cent. It is suitable for all the acuter forms of inflammation (except in cases of acute frank, recent gonorrhœal cystitis, in which the nitrate of silver has the preference), and it is the substance I almost invariably commence with in a solution in water of about three per cent., increasing at each injection up to six, nine, and twelve per cent. The last-named strength will usually do all that thallin can do in reducing the show of free pus in the first urinary rush. The intervals of making this mild injection are best spaced by two, three, or four days, according to the effect, which is sometimes wonderfully prompt and gratifying. The injection causes practically no discomfort, only a little warmth as a rule, and may be retained as long as the patient chooses.

The Sulphate of Copper.—This substance I use in a ten per cent. solution in pure glycerine. This I dilute with water for use, commencing at about one grain to the ounce and working up rather rapidly, if it agrees and has a good effect, to the full forty-eight grains in the ounce. It is markedly astringent in suitable cases, and generally in weak solutions, pains but little more than thallin; very strong solutions, however, of course feel hot and cause precipitate and moderately painful urination for perhaps several hours. The stronger the solution, the longer the interval before a second application is advisable. I do not very often go above a strength of ten grains to the ounce.

The Glycerole of Tannin.—This substance, pure, is too thick to be sucked up into the syringe easily. I use it reduced by adding water, seventy-five, fifty, or twenty-five parts, where a more astringent (but sometimes less irritative) influence is aimed at than that procured by the copper solution.

The Nitrate of Silver.—I employ this remedy as high as a ten per cent. solution, but very, very rarely—practically never in catarrhal cases—use anything like this strength. It is most useful in acute gonorrhœal cystitis, and as a final astringent when copper and tannin are not efficient. I dilute it with water at each time of application, commence usually at a strength of one grain to the ounce, and very rarely have to go beyond ten, making the applications every three to eight days—studying the effect and being guided by it. This is the harshest of the applications, causes the most pain, precipitancy, and urgency of urination (which often lasts several hours), but frequently renders incalculable service. Carefully used, it is free from the danger of producing complications.

By the careful and observant use of these four solutions, which anyone may easily master after a few trials, the greatest advantage may be obtained in suitable cases of posterior urethritis. Did I not have them at my command, I think I should give up the treatment of gleet. When they disagree the fact is immediately obvious, and their good effect equally clear when they suit a given case, while their employment is generally progressively satisfactory. The thallin makes a black solution when used in the same syringe with the nitrate of silver, which it takes some time to wash out. I therefore use two syringes, one for thallin and tannin, the other for copper and silver.

1 Park Avenue, May 21, 1891.

A CASE OF GASTROSTOMY (HACKER'S METHOD) FOR IMPASSABLE STRICTURE OF THE CARDIAC END OF THE ŒSOPHAGUS.

Recovery—Subsequent Dilatation of the Stricture.[1]

By ROBERT F. WEIR, M.D.,

Attending Surgeon, New York Hospital, etc.

The patient, aged fifty-nine, whom I exhibit to the Society this evening, had been in fairly good health, with only slight disturbance in his digestive organs, until the beginning of 1890, when in one day he had two severe hemorrhages, with vomiting of blackened blood from the mouth, though no discharges of changed fæces were noticed. This was considered at first to be due to a contracted liver, but repeated examination of that organ failed, at a later date, to detect any change in its size. After this attack he was troubled, more or less, by irregularities in his gastric and intestinal functions. He had another sharp hemorrhage in June last. In August the first symptoms of interference with deglutition presented themselves, associated with vomiting. For this the introduction of an ordinary stomach-tube was resorted to daily to wash out the stomach. This relieved the nausea and retching, and he continued free from pain until the middle of September, when the use of the stomach-tube became difficult, and thereafter it could only be occasionally employed. The hindrance in swallowing also became more noticeable, and was joined at times with regurgitation of the food. I was called to the patient about November 1st, by the physician then in attendance, Dr. J. J. Henna, who had recognized the presence of an increasing stenosis. I failed to get even the finest œsophageal bougie into the stomach, the arrest being found with all, as with the *bougie à boule*, No. 20 French, which was first introduced, at seventeen inches from the incisor teeth. The resistance to the onward progress of the bulb was a firm one and was without pain, nor did any blood or pus appear at any time, either before or after the repeated efforts that I made, with due intervals, in the two weeks following my first examination. He was still able to swallow with some effort, and with great slowness and circumspection, a moderate quantity of milk, and this, with some grape-juice, which he liked, served with rectal enemata to keep up fairly his strength, though he was then losing flesh. My judgment at the time was that his stricture was probably due to a neoplasm, and that it was situated near the cardiac end of the œsophagus, and I advised that unless success crowned speedily the efforts to carry a dilating bougie through the stricture, that gastrostomy be done at an early date. His interest in political matters, for that was his *métier*, impelled him, with other considerations, to decline then my further attendance, and I did not see him again until December 13th. He had, however, in the meanwhile, been seen by several other surgeons, who, like myself, failed to pass in a bougie. Once also electrolysis of the stricture was tried. His condition now was materially changed. Little or nothing of food (milk and wine) passed into the stomach. Nutrient enemata (Rudisch's prepared meats) had been administered for nearly eight weeks, several times a day, and

[1] Communicated at a meeting of the Practitioners' Society, held May 1, 1891.

his strength had failed so that he was now compelled to stay in bed and had wasted to ninety-eight pounds in weight, having weighed in January, 1890—before his first hemorrhage—one hundred and ninety-nine pounds. His loss during the last week was five pounds. Gastrostomy was now a necessity. Dr. Kinnicutt, who joined me in the investigation of the case, corroborated the excellence of the patient's kidneys, heart, stomach, and liver, and ventured the diagnosis of a fibrous or cicatricial stenosis. This, from his age and the absence of history of an ulceration of a size to produce such a contraction as here existed, I was only willing to admit after time sufficient had elapsed to sufficiently exclude carcinoma, to pronounce positively on this point.

It only remained, the patient having consented to submit to the operation, to consider the situation of the abdominal wound and the size of the gastric opening that should be selected to meet the exigencies of the case. The opening in the abdominal wall should, it seemed to me, be placed where, if possible, the leakage of the gastric opening might easily be controlled. The usual incision (called Fluger's) on the left side along the free border of the costal cartilage, as the latter rises up to the ensiform cartilage, has been sufficiently proven to be without any advantage in controlling the egress of the contents of the stomach after a successful gastrostomy.[1] This region only allows of a ready access to the stomach. Did other methods offer anything better? That proposed by Hahn,[2] of Berlin, of making the gastric opening in the space between the ninth and tenth left costal cartilages, at a point as far forward as possible, seemed at first more suitable. The evidence presented by its author, in some eight cases with but one death, and those reported by von Hacker and others, showed that in this situation, by the elevation of the stomach kept up by the unyielding cartilages and by the narrowness of the space itself, little or no escape of the irritating gastric juice or of the stomach contents was to be expected. Moreover, the mortality of the operation was comparatively slight. Indeed, concerning this I may here say that, under antiseptic precautions and improved technique, the mortality of gastrostomy has materially diminished. This has also been brought about by the earlier resort to the operation—in other words, when the patient is in better condition. In fact, to finish the last point, the old dictum that gastrostomy should not be performed so long as food can be got by ordinary deglutition into the stomach, is not to be considered as correct in surgery, but rather that it should be resorted to as soon as one is convinced that the patient is beginning to be starved, and it is proved that this is not to be obviated by permanent tubage, as in carcinomatous strictures, or by dilatation or otherwise, as in stenosis from other sources. But to return to the consideration of Hahn's procedure: it was liable to two objections, one common to all gastric openings in this site, that is, that necrosis of the cartilage with its concurrent suppuration-ulceration, and pain not infrequently takes place, as is proven by cases of Dalton, Hacker, and Hahn himself; and the other, of much possible importance in my patient's case, that it forbade any large opening into the stomach, should this be needed either at the time of the operation or subsequently. I therefore abandoned this plan of operation and turned to that proposed by von Hacker, one of Billroth's assistants. This was to make the section of the walls of the abdomen within the limits of the left rectus muscle, some three inches below the ensiform cartilage. By tearing or pulling through the longitudinal fibres of the muscle after division of the skin and fascia, one could come readily down to the peritoneum, and, after its section, to the stomach; this organ could then, after being duly sutured, be openen either immedtately or after the lapse of a few days. Its opening would then in this situation be encircled as it were, or literally pressed on each side by the longtitudinal fibres of the rectus which would act thus as a kind of sphincter. Hacker presented [1] a report of a series of twelve cases similarly treated, with the satisfactory result of not a single death from the operation itself, but with the specially noted point that little or no leakage of the abdominal contents took place. To meet the few cases where this did occur he, or rather one of his aids, Dr. Max Scheimpflug, contrived the rubber balloon-cannula which is now shown in Fig. 1. It

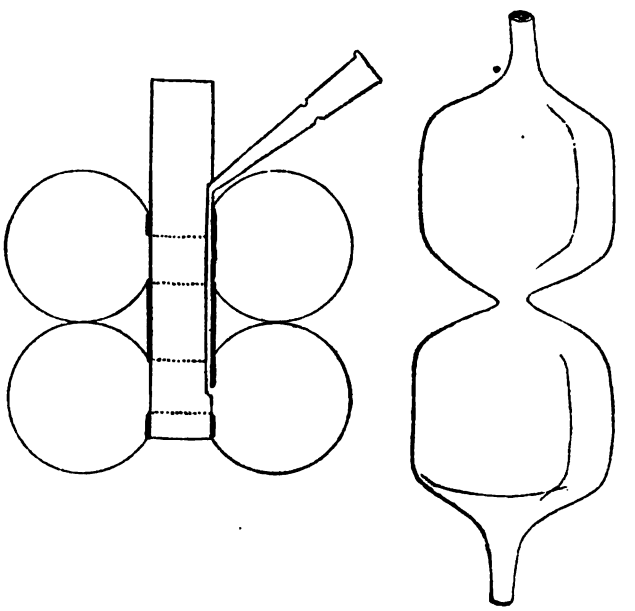

Fig. 1.—Diagram of Scheimpflug's Balloon-cannula for Gastrostomy.[2]

is introduced empty and then inflated. Its interior pressure occludes gently the gastric opening. This method of Hacker's allows one, if occasion require it, to enlarge the opening in the stomach to any desired extent.

The possibility of a large incision was dwelt upon at some length, because of the chance of the present stenosis both being of a cicatricial character and of its situation at or near the cardiac orifice of the stomach, and finally, of its being insurmountable to the passage of bougies introduced by the mouth. I had to consider the needs of each probable case. It might be determined, for instance, on exploration made with the finger or hand after opening the peritoneal cavity outside the stomach, that the forcible dilatation applied so many times with success to the narrowed pyloric orifice could be employed at the cardiac end. Loreta has reported four successful stretchings of such situated stenoses. This would obviously require a large opening into the stomach. Or, perhaps the stricture under the anæsthetic might be penetrated either from above or from below, and by this or other similar means as a guide enlarged by cutting instruments, as from the abdominal wound upward. Lange did safely in one instance, and Bergmann and others have done by dilators, and the gastric and abdominal wounds either immediately or subsequently closed. All these conditions, it

[1] Terrier (Gastrostomie pour cancer de l'œsophage, Revue de Chirurgie, Avril, 1891), however, still prefers the old (Fluger's) incision along the ribs, and after making a small incision only introduces a tube for feeding purposes, at other times it is sedulously kept out of the wound. In this way no undue patulousness occurs and hence, he says, no leakage, and gives five cases supporting this claim.

[2] Hahn makes first an incision parallel to the edge of the left rib, opens the peritoneum, identifies from within the eighth intercostal space. Then from without he makes a second incision obliquely through the skin and muscle of this space, sufficient to admit a forceps by which the wound is sufficiently opened by stretching so that the forceps can seize the chosen part of the stomach, held up by the finger and thumb introduced through the first incision. This portion of the stomach is then drawn through the opening between the ribs and there fastened by a few stitches, to be opened preferably after a day or two. The incision below the ribs is closed by sutures. The diaphragm is not touched by this method of operation, as this muscle is at least two centimetres distant from this spot. The ribs act, says Hahn, as a valve, and the opening does not readily enlarge (Centralblatt f. Chirurg., No. 11, 1890). Hacker, however, found that very distressing erosion of the ribs occurred in the two cases in which he resorted to Hahn's method. A similar experience is reported by Dalton, of St. Louis.

[1] Wiener klin. Wochenschrift, Nos. 36 and 37, 1890.

[2] Ibid, No. 25, 1888, p. 518.

seemed to me, could be met in the choice of Hacker's method via the rectus muscle.

The operation we accordingly performed under chloroform and full antiseptic precaution, December 16, 1890, by an incision three and a half inches long, beginning one inch below the ensiform cartilage and the same distance to the left of the median line. As soon as the muscle was exposed its fibres were separated by a director[1] and held aside, and the fascia and peritoneum beneath divided nearly the whole length of the wound. The fore and middle fingers being inserted into the peritoneal cavity, came first on the colon; this being pushed downward, the stomach was seized and drawn out of the wound to a moderate extent. While held *in situ* by an assistant and with it stretched as a guide, the fingers were carried to the spine and thence toward its cardiac end. No tumor was there to be felt, though this is very frequently present in neoplasms originating in the lower end of the œsophagus. This, though somewhat encouraging me toward active interference, was more than counterbalanced by the debilitated condition of the patient, and the latter feature of the case induced me to limit the surgical procedure to the smallest degree possible; so I was content to draw out a small fold of the stomach just beyond the level of the skin, and after pinching it together to make certain that the whole thickness of the two walls of the organ were between the fingers, a headless gold pin was purposely thrust through them all so as to pierce the included mucous membrane. It will be remembered that Howe and others, using one or two pins as may be, endeavor in so doing to avoid encroaching on the cavity of the stomach. Here, besides affording support to the stomach in the wound, the pin is intended to be used as a guide and indicator when the final opening into the viscus is made. The ends of the pin rested across the wound on the skin. The peritoneal coat of the stomach was now stitched with sixteen interrupted stitches to the peritoneum, which had been previously united on each side by several sutures to the skin. The peritoneal edges left above and below were then sutured, as also were in turn the muscular, fascial, and skin layers (Fig. 2).[2] The opening in the stomach was intentionally deferred until adhesions should have formed. This, it was hoped, would be postponed for forty-eight or seventy-two hours. The line of sutures was covered with iodoform collodion and antiseptic bichloride dressings were applied.

December 17th.—The patient did well, complaining occasionally of sharp pain in the abdomen, without any vomiting. Relieved by morphine injections, ♏ x. Peptonized milk enemata, ℥ vj., and brandy, ℥ j., were given every six hours, with a long tube, after washing out the bowel with warm water. Pulse, 95; temperature, 100° F. Apollinaris water and beef-tea given occasionally by mouth to relieve dryness and thirst. They were usually regurgitated after a time.

December 19th.—On the third day, patient having grown decidedly weaker and thinner but without signs of inflammation, though being contented and at ease, it was decided to wait no longer, but to make the completion of the gastrostomy. At two o'clock, under cocaine injected into the stomach-wall, an incision down to the transverse needle was made with a tenotome, and as the mucous membrane was divided it was recognized by the contact with the needle that the interior of the stomach was without doubt reached. This is a point of some importance, as this opening is not in every case an easy one to make, and the value of the pin as a guide was fully established in this case. Two small vessels spurted, requiring clamping. The mucous membrane was seized, pulled out, and fastened in four places to the skin by silk sutures. A No. 16 English rubber catheter just fitted in the opening when it was completed. Iodoform collodion was liberally daubed all over and around sutures and along line of original incision; then iodoform gauze, over which a sheet of rubber with a hole in it through which the tube running into the stomach snugly passed, and then a sublimate dressing fastened by adhesive bands and a bandage, completed the dressing. After the occlusion four ounces of strong beef-tea was poured through the tube into the stomach by means of a funnel, and finally the tube itself was closed by a pinch-cock and secured by a thread to a piece of sticking plaster to prevent its egress. This feeding was repeated every six hours in increasing amounts and of varying substances.

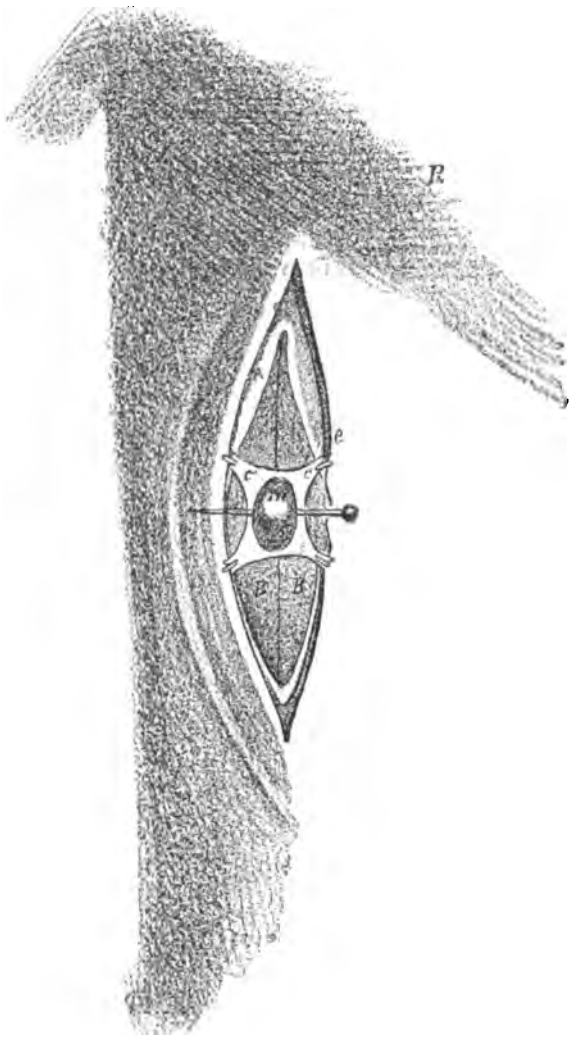

FIG. 2.—*A*, Fascia; *B*, rectus muscle; *c*, peritoneum; *m*, stomach; *G*, outer skin; *R*, edge of ribs; *N*, umbilicus.

The next day, peptonized milk being given with half anounce of brandy in each food allowance, pulse, 80; temperature, 98½° F.; to continue rectal injections three times a day. On the 21st, one pint of milk and one ounce of brandy were given three times a day. This was augmented on the 22d by three eggs per diem, and so on, so that after a few days, omitting the rectal injections, he was fed by the artificial opening with two ounces of chopped meat, one pint of milk, one ounce of brandy, and two eggs, three times a day, with a smaller allowance during the night. Later it was found that less finely divided substances could be forced through the same sized tube by the use of a large syringe. though principally food was administered by aid of a small funnel. But very slight irritation from the gastric juice occurred, and this was readily checked by zinc ointment. Little or no leakage occurred, the tube being continuously kept in. At the end of the first week or ten days, when the just mentioned slight irritation occurred, I tried the use of one of

[1] Girard (Correspondenzblatt f. Schweitz. Aertze, November 11, 1888) has suggested that some of the muscular fibres of the rectus muscle should be crossed, so that the extruded portion of the stomach-wall should, so to speak, be more completely surrounded by this new-made sphincter muscle. The present case was satisfactory enough to show that this addition to the technique might be unnecessary.

[2] See Wiener Med. Wochenschrift, November 3, 1886.

Scheimpflug's balloon-catheters (Fig. 2).[1] They answered their purpose well, but they were not durable enough, the rubber softening and yielding under the action of the stomach, and on returning to the use of rubber tubing it was found that the muscular action of the rectus abdominalis was amply sufficient to preserve control of the stomach contents, though the tube required changing every ten days or two weeks, being likewise softened and swollen by immersion in the stomach.[2] At the end of two weeks the patient was out of bed. At the end of four weeks he was moving freely about his room, and had gained from his lowest point, estimated at ninety-four pounds, when stomach was opened, up to one hundred and twelve pounds.

At about the fourth week the treatment of the stricture was essayed. This length of time was purposely allowed to elapse in order to secure improvement ample enough to withstand any of the evil effects resulting from the attempts that might be made to dilate or enlarge the stricture. It was also considered that, should time confirm the impression of the stenosis being a malignant one, the inutility of any decided procedure would be established by the delay. On the first trial, with a fine whalebone bougie, I passed fortunately into the stomach. This ease of entrance was in marked contrast to the difficulty and failure encountered prior to the operation; and as in the urethra when the perineum is opened behind a stricture the rest afforded to the latter allays mucous swelling and muscular spasm, so here in the œsophagus the same amelioration took place, probably from similar causes. A slightly larger whalebone bougie with an olive point, perforated near its point and threaded with a long, doubled, thin, strong silk was passed down and, with a little manipulation, through the stricture into the stomach. It was intended to push this into the latter as far as possible, and then partially withdrawing it, to leave in the way a loop of silk there that might either be washed out through the gastric opening or might be caught by an instrument like the familiar crochet-needle. But the patient objected strongly to further action at this sitting, and the attempt was postponed till the next day, when on trying the smallest conical œsophageal bougie, size No. 7 French at the point and No. 10 in the shank, it was found that it passed with but moderate but decided biting. It was therefore determined to try how far simple intermittent dilatation could be carried before resorting to other and somewhat novel expedients. I had proposed to myself, for instance, had the resistance of the stricture been great or the difficulties of its passage severe, to have utilized my silk thread, when once it had been carried through from the mouth out of the abdominal opening, as a means of carrying a stronger and larger cord, and then drawing through the gastric opening upward either Lange's modification of Maisonneuve's knife, or some other one of the several œsophagotomes that experience has shown to be available, from above downward. Lange's little knife has been used by him with success,[3] and is in fact a quadrangular knife with two of its four corners blunted, and the other two perforated for the attachment of the to-and-fro guiding cords. The smallest sized knife makes only a very limited incision, and thus its employment seems to be safe. Had it become necessary, retrograde dilatation, —*i.e.*, from the stomach upward—would have been tried, by a slightly curved tube leading to the cardiac end of the stomach from the fistula as a guide, and through this the necessary bougies would have been passed.

The rest of the history of the case is extremely simple. Dilatation was practised two or three times a week without any special hitching in the treatment, and in the course of two months was carried up to the largest size olive ended conical bougie that is made, viz., 40 French. When this was reached, finely divided food was allowed to be taken with the milk swallowed, the fistulous feeding being correspondingly diminished. For the last month dilatation has been continued by aid of the long, hard rubber bulbs on whalebone stems, that I have learned to attribute to Dr. Roe, of Rochester, who has done so much in advancing œsophageal surgery. These are some two inches long with the greatest diameter central, and pass through a stricture much easier than the ordinary sized and shaped *bougie à boule*. Beyond No. 42 French it became painful to the patient to use, as the diameter of the œsophagus at the cricoid level was reached for normal dilatation. This is given by Tillaux and Mouton,[1] at this point as 14 mm. in average normal diameter, and that of the cardiac orifice at nearly the same size, with the possibility of dilating the latter orifice, particularly, safely up to a diameter of 17 mm.[2] I had myself found, in two previous instances of spasm at the latter point treated by dilating bulbs, that I could carry dilatation up to a sized bulb which measured 60 mm. in circumference, or a little less than 19 mm. in diameter. Hence I was anxious to augment to a further degree the stretching in the present case, and so resorted to bulbs oval in shape,[3] which preserved an antero-posterior diameter of 14 mm., but whose transverse diameter was gradually increased. In this way the stricture was enlarged up to the size of a bulb which measured 57 mm. in circumference. Since reaching this point, within the last ten days, the patient swallows ordinary food, only taking care to chew it, particularly meat, thoroughly. His weight is now one hundred and thirty pounds, he walks a mile a day, and his spirits correspond to his improved general condition.

As to his gastric fistula, I preferred to show him to the Society at the time that the advantages of the Hacker method might be demonstrated. Hereafter no tube will be kept in the fistula, and it will probably close itself or narrow to such a slight sinus that a light cauterization with nitric acid or with the Paquelin cautery will efface it. Or, at the most, if these fail to destroy the mucous membrane at the orifice, a slight dissection and removal of the same under cocaine will effect its obliteration.

NOTE.—June 15th. The fistula is now nearly closed by nature's contraction. The patient's condition steadily improves, he now weighing nearly one hundred and forty pounds.

[1] Made after design furnished to Mr. Hohlmann, of Tiemann & Co., and subsequently from balloon plugs kindly sent me by Dr. Scheimpflug himself.

[2] I have recently used similar plugs of heavier rubber with good effect in the fecal incontinence following Kraske's extirpation of the rectum.

[3] See report of Proceedings of the New York Surgical Society, New York Medical Journal, February 1, 1890.

ON THE DIAGNOSIS OF INTRA-CRANIAL HEMORRHAGE AND ACUTE SOFTENING.

BASED ON A STUDY OF SEVENTY FOUR CASES WITH AUTOPSIES.[4]

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THE present paper is based on a study of seventy-four cases of fatal cerebral apoplexy, embolism, and thrombosis, occurring for the most part in Bellevue Hospital. The list embraces all the cases that could be found on the record books in the last twenty years. These amounted to less than fifty. The remainder occurred in my own service, or in private practice.

There is a slight and manifest source of error in basing clinical facts on fatal cases alone; but with our present knowledge it is the only safe way. I am not aware that any systematic attempt to analyze a considerable number of such cases as these has been made by American observers. Hence I feel that I am justified in publishing the present records, even if the results drawn are not remarkable. I hope at least to call attention to certain lines of observation which will be found helpful in elucidating

[1] Du calibre de l'œsophage. Paris, 1874.

[2] Tillaux: Anatomie topographique, page 470.

[3] Suggested in 1875 by Chassagny (Tillaux).

[4] Read at a meeting of the Practitioners' Society, May 1, 1891.

that most perplexing problem, the distinction between cerebral hemorrhage and acute softening from embolism or thrombosis.

Analysis of Cases.—Of the 74 cases there were of

Intra-cranial hemorrhage		50
Acute softening:		
Embolism	12	
Thrombosis	12	24
Total		74

Intra-cranial Hemorrhages.—Of these there were of

Meningeal:		
Pachymeningeal	7	
Pial and cortical	7	14
Central:		
Ventricular	23	
Corpus striatum and vicinity	7	
Optic thalamus	1	
Corpora quadrigemina	1	32
Pons		1
Cerebellum		3
Total		50

Hemorrhages from the vessels of the dura mater are called *dural* hemorrhages, they may be supra dural, or sub-dural; in the latter case being called hæmatomata of the dura.

Hemorrhages from the pia mater into the cortex, or subarachnoid sac, are called pial or cortical.

Hemorrhages from the central arteries given off at the base of the brain are called central. Hence we have dural hemorrhages, pial and cortical hemorrhages, central hemorrhages, pons and medulla hemorrhages, cerebellar hemorrhages.

Acute Softenings—Embolism.—The arteries involved were the

Right middle cerebral	4
Left middle cerebral	4
Right anterior cerebral	1
Right posterior cerebral	1
Right anterior and middle cerebral	1
Right posterior and middle cerebral	1
Total	12

Right side, 8; left side, 4.

Thrombosis.—The arteries affected were the

Right middle	3
Right anterior	2
Left middle	3
Left posterior	2
Basilar	1
Both middle cerebrals	1
Total	12

Right side, 5; left side, 5; both sides, 2.

Duration of Life in Fatal Cases of Hemorrhage and Softening—Statistics.—Average duration of life in ventricular hemorrhages, 1 to 3 days; in other central hemorrhages, 1 week; in surface hemorrhages, 1 week; in acute softening, 1 to 10 weeks.

Mortality.—When a hemorrhage breaks into the ventricles death occurs in from one to three days. In small primary ventricular hemorrhages life may be prolonged three weeks. The average duration of life in a fatal central hemorrhage is under a week, hence, if a patient passes the first week, he is likely to live longer. It is also inferred that if a hemorrhage breaks into a ventricle, it does so within the first twelve, or, at most, the first forty-eight, hours after the vessel breaks.

In central hemorrhages the usual mode of death is by rupture into the ventricles. Out of 32 central hemorrhages, 26 were ventricular.[1] In surface dural hemorrhages life is prolonged somewhat, the average duration being four to five days, and the limits one to eight. In fatal acute softenings death may come in a few days, but is usually postponed, sometimes for several weeks. The extreme limit is 2.5 months.

Age.—Age is a factor in diagnosis. Hemorrhage is said to occur oftenest between the ages of sixty one and seventy, and to steadily increase after the age of forty and up to the age of seventy. Thrombosis from syphilitic disease is said to be most frequent between thirty and forty, and rarely occurs from this disease after fifty (Gowers). Thrombosis from other causes occurs much later in life, as my table shows.

Embolic softening is admitted to occur oftenest in early adult life. In my cases the ages were as follows:

For Central Hemorrhages, Including Mid- and Hind-Brain.

Age.	Cases
10 to 20	1
21 to 30	6
31 to 40	10
41 to 50	9
51 to 60	6
61 to 70	8
71 to 80	5
Total	45

For Meningeal Hemorrhages.

Age.	Cases.
20 to 30	3
31 to 40	0
41 to 50	2
51 to 60	0
61 to 70	1
Total	6

For embolism and thrombosis the cases are not sufficient to draw very definite conclusions, but the figures are:

Age.	Embolism. Cases.	Thrombosis. Cases.
1 to 10	1	0
21 to 30	2	0
31 to 40	2	1
41 to 50	5	2
51 to 60	1	6
61 to 70	1	2
Total	12	11

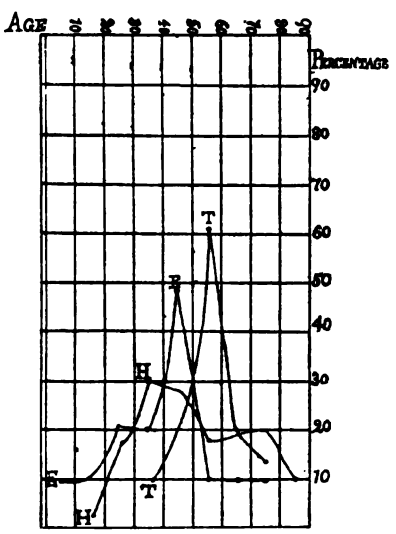

Fig. 1.—Chart Showing the Relative Frequency of Embolism, Thrombosis, and Hemorrhage at Different Ages.

These figures apparently show that hemorrhage occurs with greater frequency before the age of forty than is generally believed. The greatest number occur between thirty and fifty. Embolic softening occurs a little later, and thrombolic softening still later than hemorrhage.

Fagge's table[1] of the ages of 113 cases of fatal cerebral hemorrhage shows a greater preponderance of cases later in life. It may be, therefore, that *apoplexy occurs earlier in Americans than Europeans.*

[1] Charcot and Bouchard met with only 18 ventricular hemorrhages out of 78 cases. Archives de Phys., vol. i.

[1] Science of Medicine.

Side Affected.—Hemorrhages: Lesion in right half of brain, 23 cases; in left half of brain, 23 cases. Surface hemorrhages: Right brain, 4 cases; left brain, 8 cases. Embolisms: Right brain, 7 cases; left brain, 5 cases. Thromboses: Right brain, 3 cases; left brain, 7 cases; both, 2 cases.

In hemorrhage each side of the brain is about equally affected, but in embolism it is usually taught that the left middle cerebral is oftener affected than the right. This difference is admitted by Gowers to be slight (six to five), and according to my figures it does not exist. More emboli affected the right side than the left, in the ratio of seven to four, therefore the side of the lesion and aphasia are points of no diagnostic value.

Arteries Affected and Seat of Lesion.—The middle cerebrals, or some of their branches, are oftenest affected; in hemorrhage, eighty per cent. in my cases; seventy per cent. according to Wernicke. The same is true for embolism, though to a somewhat less extent (seventy-five per cent.). In thrombosis these arteries are also oftenest affected, but here the proportion is still lower (sixty per cent.), and the posterior cerebrals, or the vertebrals or their branches, are oftener involved. Hence, other things being equal, evidence of involvement of the other arteries than the middle cerebral, embolism being excluded, makes the chances more in favor of thrombosis. This applies particularly to the pons and medulla. The middle cerebral is the artery of hemorrhage. The vertebral and its branches, and the posterior cerebral, are the arteries of softening.

Miscellaneous Symptoms.—*Delirium* occurs both in hemorrhage and softening, if life is prolonged more than four or five days.

Consciousness is affected less profoundly and for a shorter time in softening.

Brief Severe Attacks of Loss of Consciousness with some hemiplegia indicate obstruction. Preliminary mild seizures also indicate obstruction. Consciousness is less permanently and severely affected in cortical and meningeal hemorrhages than in central, unless the former are very extensive. It is most severely affected in ventricular hemorrhages. If in a stroke a patient passes rather rapidly from partial or complete consciousness into unconsciousness, it means a ventricular hemorrhage. If he passes into convulsions it means that the clot has broken through the cortex to the surface of the brain. If the stroke comes without loss of consciousness at first, but this supervenes later, immediately afterward, it is more likely embolic.

Convulsions.—These were never present as initial symptoms in any case. Convulsions almost invariably indicate a hemorrhage, and that this hemorrhage is dural or pial, or that a central hemorrhage has broken through the cortex. Dural or pial hemorrhage may cause no convulsion, however (3 cases). In one case only did a ventricular hemorrhage cause convulsions. Acute softening, if cortical, may cause convulsions; if central, never. Vomiting never occurred in any case.

Rigidity.—Early rigidity occurs in about half the cases of ventricular hemorrhage, and is more marked on the paralyzed side. It may occur in other hemorrhages, and with quite as much frequency in surface hemorrhages as in ventricular. It occurs, however, much oftener in ventricular than in other forms of central hemorrhages. It occurs but rarely in thrombosis (3 cases), and still more rarely in embolism (1 case).

Pupils.—In hemorrhage the most common condition is contraction and irregularity, with imperfect response to light. As death approaches contraction gives place to dilatation. The contraction is not due to any uræmic complication, as it occurs with equal frequency in patients with healthy kidneys, and dilatation may occur in persons with very much diseased kidneys. Disturbance of the pupils is less marked in lesions of the frontal lobes. Irregularity of pupils is more frequent in lesions of the cortex and meninges, least frequent in ventricular hemorrhages. The dilatation is oftenest on the side of the lesion, owing probably to pressure on the third nerve.

In acute softening contraction almost always occurs, dilatation very rarely, except perhaps just before death. Irregularities are less frequent than in hemorrhage.

Alternate Conjugate Deviation.—When the patient has convulsive seizures during which the eyes turn first to one side (usually that of the lesion) and then to the other side, it indicates a surface or cortex lesion. Otherwise conjugate deviation has no particular diagnostic value.

Sensation.—Some loss of cutaneous sensation occurred in a fifth of the cases of hemorrhage, and in a very much larger percentage of cases of softening. If with moderate hemiplegia there is anæsthesia of the affected side, the probabilities are much more in favor of acute softening. For blocking up the middle cerebrals does not cause anæsthesia, while blocking of the posterior, or even anterior, cerebrals does often do this. I consider the presence of anæsthesia in connection with other symptoms an important point in diagnosis.

The Temperature.—The temperature in cerebral hemorrhage, according to Bourneville, usually falls several degrees below normal during the first few hours after the attack. It then gradually rises to normal or slightly above. In the first three or four days this rise may amount to 101° or 102° F. If the injured brain begins to heal the fever rapidly disappears, and the temperature falls to normal. If, however, the injured brain-tissue tends to further soften and to inflame, the temperature rises steadily and death occurs.

The temperature is slightly higher (by ½° to 2° F.) on the paralyzed side; or it may be normal on the paralyzed side and subnormal on the sound side.

Contrary to Bourneville's experience, the temperature was not recorded as subnormal in a single one of my cases. Still, in most of them the cases were at least a day old before observations were begun.

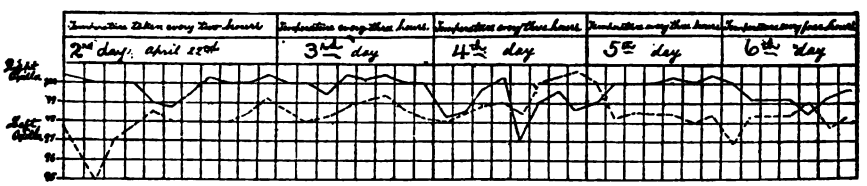

FIG. 2.—Chart Showing Early Subnormal Temperature on the Sound Side in a Case of Acute Softening.

In acute softening from thrombosis or embolism, the initial fall of temperature is rare, and in the rectum is short in duration. It often affects only the sound side, and on this side may continue low for two days.

In the majority of cases of acute softening the general bodily temperature at first is not affected. Later it may be either equal on the two sides, or slightly higher on the paralyzed side. Just before death it may drop very low (94° F.).

The peculiarities of the temperature in acute softening, as distinguished from those in hemorrhage, are the rarity of primary subnormal temperature and its presence, if it does exist, only on the non-paralyzed side, also the slighter tendency to inequality of the temperature on the two sides, and its slower rise if a rise occurs.

It has been suggested by Bastian that the real temperature disturbance is that on the non paralyzed side, *i.e.*, on the side of the lesion, and that the temperature nerves do not cross. The profound unilateral temperature depression in some cases gives some color to this view; but, on the other hand, experimental physiology very decidedly negatives it.

Temperature disturbances occur most markedly in lesions of the caudate nucleus, to a less extent in menin-

geal hemorrhages, and still less in lenticular or thalamic lesions. Lesions in the crus and pons disturb it most of all.

Urine and Kidneys.—The urine, contrary to the usual statements, was generally of high specific gravity (1.020–1.026–1.030) in hemorrhage and thrombosis. Renal disease was present in a third of the cases of hemorrhage, rather oftener relatively in thrombosis, and less often relatively in embolism. Albumin may be found in the urine and yet no serious renal disease be present.

Chances.—Take a person between thirty and fifty, exclude heart disease, and the chances of his stroke being apoplexy are 19 to 3, or about six to one.

Summary.—The stigmata of cerebral hemorrhage might be stated as follows: Age, thirty to fifty, sudden onset with coma and paralysis together, not paralysis preceding coma; initial and early rigidity; profound paralysis; very unequal pupils; a peculiar alternating conjugate deviation; convulsions, if present. Disturbances of temperature as described. The negative symptoms, so to speak, are absence of cardiac disease, or of weak heart, or extreme age.

These facts may be presented more systematically in the following table:

Hemorrhage.	Acute Softening.
Age, thirty to fifty.	*Early or later age.*
Hereditary history of arterial disease.	
Sudden onset with coma and paralysis occurring together, the coma deepening.	Premonitory symptoms and more gradual onset or more transitory coma.
Initial and early rigidity.	
Very unequal pupils.	
Stertorous breathing and hard, rather slow pulse.	
Peculiar alternating conjugate deviation, as described above.	
Early rigidity.	
Convulsions.	
Peculiar disturbances of temperature, as described above.;	
	Presence of weak heart, or endocarditis.
	Slight hemiplegia with anæsthesia.
	The puerperal state.

Between embolism and thrombosis the diagnosis must be based on lines already laid down in text-books. My records show nothing especially new. I have, however, never seen so much temperature disturbance in embolism as in thrombosis. Furthermore, it should be said that the onset of embolism may be accompanied with sudden profound disturbance of conscious and peculiar convulsive movement, of a co-ordinate kind, not like the epileptiform convulsions of cortical hemorrhage.

50 West Forty-sixth Street.

UTERINE HEMORRHAGE OF OBSCURE ORIGIN.[1]

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I have selected this subject, not with the expectation of bringing forward any new facts, but with the hope of encouraging an interchange of ideas which may serve to throw light upon certain phenomena that have never been satisfactorily explained. The great advantage of introducing a discussion on a gynecological topic before an audience like the one before me lies in the fact that all useless explanatory details may be omitted. It may be at once assumed that we are entirely conversant with the elementary principles of our art, and that the ordinary forms of uterine hemorrhage are quite familiar to us. It is unnecessary to enumerate the long list of etiological factors which figure in every text-book. We all know from experience how difficult it often is in actual practice to adjust our diagnoses to the classical symptoms which are supposed to go with them. The exceptions are numerous and puzzling.

I need not rehearse the ordinary routine method of examination which we adopt in order to discover the true cause of bleeding from the uterus. Nor is it necessary to remind you that our early training has impressed upon us the folly of remaining content with mere palliative treatment in the face of constantly recurring hemorrhage. The general practitioner may seek to "cover up his tracks" with the astringent douche, the tampon and internal medication. For the gynecologist to pursue such a passive course would argue either timidity or carelessness; he could not plead ignorance. In short, it is an elementary principle that, given a case of uterine hemorrhage, there must be a cause (usually local), and that until this is discovered and treatment is directed toward it we are not doing our whole duty by the patient.

After all, the immediate cause of uterine hemorrhage lies in the endometrium; the remote it is not so easy to discover. What is the source of the menorrhagia in cases of commencing epithelioma of the cervix—is it due, as is taught even now, to "circulatory disturbances" or to actual rupture of small arteries in consequence of advancing ulceration? This can hardly be proved, since there is often no relation between the extent of the disease and the profuseness of the flow. There are certain fungoid, exuberant forms of growth which break down at the slightest touch and bleed freely, yet menstruation is not excessive, while in other cases where there is simply an indolent diffuse induration menorrhagia is a prominent symptom. I offer this suggestion: Menorrhagia in connection with malignant disease of the cervix (cancer of the body of the uterus belongs under another category) is due quite as much to the accompanying hyperplastic endometritis as to the disease of the cervix. It is most marked in the case of large uteri with extensive endometritis. This I have repeatedly demonstrated to my own satisfaction in specimens removed per vaginam. The condition has been mistaken by some German observers for sarcomatous or quasi-sarcomatous degeneration of the endometrium, and has been presented by them as a strong argument in favor of total extirpation, even when the cancer is limited to the portio vaginalis. The condition is nothing more nor less than so-called fungous endometritis, such as accompanies so frequently fibroid tumors, as I have shown in a former paper. The same hyperplasia is noted as a result of congestive enlargement of the uterus from any cause—displacements, perimetritis, inflammatory affections and tumors of the tubes and ovaries, etc. Long-continued congestion of a hollow viscus lined with mucous membrane leads to hypertrophy of that membrane—this is an ordinary principle in general pathology.

This brings us back to the initial proposition, that under ordinary circumstances uterine hemorrhage means a diseased condition of the endometrium, induced by some cause that produces congestive enlargement of the entire uterus, and by natural inference, in treating the effect without seeking for the cause we must act unscientifically.

In order to support this apparently sweeping statement I invite your attention to the following brief notes of cases selected from a considerable number at my disposal:

Case I.—Patient of the late Dr. Hunter's, aged fifty. History of former peritonitis; menorrhagia, with extreme dysmenorrhœa. General abdominal pains, suggesting presence of intestinal adhesions. Menstruation regular in its occurrence, and no evidence of approaching menopause. Malignant disease of corporeal endometrium suspected on account of profuse flow and rapid emaciation. The curette, used on several occasions, brought away simple fungosities. Laparotomy. Uterus moderately enlarged, ovaries and tubes firmly adherent, but small and

[1] Read at the Sixth Annual Meeting of the Alumni Association of the Woman's Hospital, January 19, 1891.

apparently atrophied. Numerous firm retro-uterine adhesions. The adhesions were separated but nothing was removed. Convalescence normal. Patient much relieved by operation; menstruation irregular, but not excessive, for several months when it again became profuse, and the pains returned and were as severe as ever. Patient eventually reached climacteric, but pains were little if at all relieved.

Supposed source of hemorrhage, endometritis fungosa, due to chronic congestion of uterus dependent upon peri-uterine adhesions. It is doubtful if removal of the adnexa would have caused complete cessation of the flow.

Case II.—Patient of Dr. Kletzsch's, referred to the late Dr. Hunter. Aged thirty-five, full habit. Menorrhagia, severe dysmenorrhœa. Adnexa removed, the ovaries being cystic, the tubes normal. Uterus large but non-adherent. Convalescence normal. No effect whatever on menorrhagia, and little relief of pain. The patient insisted on having supra-vaginal amputation performed, which terminated fatally. Uterus three and a half inches deep, general hypertrophy of the endometrium. Right stump transformed into a mass the size of an English walnut (an old hæmatoma), which was adherent posteriorly, keeping the organ in the position of right retro-lateral flexion. No ovarian stroma found. Probable cause of persistent hemorrhage, hyperplastic endometritis from chronic congestion, due to displacement and the presence of the mass at right cornu.

Case III.—Patient of Dr. Kletzsch's, aged thirty. Adnexa removed on account of dysmenorrhœa and menorrhagia. Uterus large. Persistent flow after operation, so that less than a year after the patient insisted on having her uterus removed. Supra-vaginal amputation, with normal convalescence. At the operation no trace of the ovaries or tubes could be found. In one broad ligament there was a cyst the size of a base-ball. Uterus three to four inches deep, in normal position, and no adhesions whatever. Well-marked endometritis fungosa, with general thickening of the endometrium. Cause of persistent flow, endometritis from congestion and enlargement of the uterus, possibly due to the presence of the cyst, since no other cause could be discovered. Would not a thorough curetting have rendered the hysterectomy unnecessary? It might have done so, even if the actual cause of the bleeding still remained.

Case IV.—Patient now under the care of Dr. Buckmaster. A large, robust woman, aged forty (?), had been thoroughly curetted with the sharp curette several times for obstinate menorrhagia. I examined her under ether, the last time, with Drs. Grandin and Morrill, but the os was not sufficiently dilated to allow the finger to be introduced. We thought that we could detect with the sound a small, sessile intra-uterine fibroid, but were not at all certain. No evidence of any trouble outside of the uterus, which was in normal position. The organ was three and a half to four inches deep. It was again thoroughly curetted, the operation being followed by frequent astringent applications. No result whatever. She then came under Dr. Buckmaster's care, who employed various palliative means (including intra-uterine galvanization) without success. The hemorrhage was so obstinate that he inclined to the belief that the patient had malignant disease of the corpus uteri, and at one time thought of performing total extirpation, against which I strongly advised, believing that while there might be an intra-uterine growth, it was certainly not malignant. Vaginal hysterectomy for simple menorrhagia, I am happy to add, is an operation as yet confined to Germany.

Not accomplishing anything by palliative treatment, Dr. Buckmaster, at the patient's urgent request, removed the adnexa, with happy results, as I understand. He will himself state what he found at the operation, and the subsequent condition of the patient. Personally, I believe that the chronic congestion and the resulting hyperplastic endometritis were due to the presence of a small intra-mural fibroma which escaped our notice, and which, perhaps, could not have been removed if it had been located. I have seen just such profuse hemorrhage due to the presence of a polypus not as large as a marble. I am forced to this conclusion in the absence of other causes, especially perimetric adhesions.

The following are a few of my own cases:

Case V.—Patient aged forty, married nineteen years, but never pregnant. Took cold just before a menstrual period, according to her statement, and had suppression, followed by an attack of pelvic peritonitis, which lasted nearly two months. When I saw her she was extremely weak; the uterus enlarged to the size of the organ at the third month of pregnancy, with a hard, tender mass, as large as an orange, behind it. The late Dr. Hunter saw her twice in consultation, and first thought that the body was a fibroid, later a malignant tumor. The diagnosis was cleared up by the suppuration of the mass, and the discharge per vaginam of a number of bones from a four-months' fœtus, that had probably been encapsulated for months, or perhaps years. Menses reappeared, but at frequent intervals and very profuse, so that the patient became extremely reduced. After resorting to palliative treatment for two months (fearing to light up fresh peritonitis), I gave her an anæsthetic and thoroughly curetted the uterine cavity, removing a quantity of broken-down material and fungosities. She began to improve from that time; the hemorrhages ceased. In a few weeks she was able to walk about, and a year later she was practically well, the uterus being of normal size, with no tender indurations around it. In this case I inferred that the enlargement of the uterus and the menorrhagia were due to the old ectopic sac, the development of which, as the history clearly showed, antedated the attack of peritonitis.

Case VI.—Patient aged twenty-five, professional swimmer. Two laparotomies at intervals of a year—both for pyosalpinx—the last by myself. I removed a pyosalpinx and small ovarian cyst from the right side. Until after the second operation the patient had not menstruated profusely. Since then she has flooded at irregular intervals, losing an excessive amount. Examination showed a uterus three inches in depth (it was of normal size at the time I operated), anteverted, with a tender mass at the right cornu as large as a big pea, which I always supposed was the dilated remnant of the tube, to which a coil of intestine might be adherent, judging by the peculiar character of the pain from which the patient suffered. With this opinion Dr. Polk (the original operator) concurred, and with his approval I decided to open the abdomen a third time in order to try to discover and remove the cause of the trouble. I would state that I had already dilated and thoroughly curetted the uterus, removing a few granulations, without the slightest benefit to the patient; the reason doubtless was that the cause of the uterine congestion remained, and that as a result the diseased mucosa quickly re-formed after being scraped away. She was kept under careful observation in the hospital for several months, receiving regular treatment, including intra-uterine applications, without the slightest benefit. She was seldom free from sharp, griping pains in the lower part of the abdomen, and had several profuse hemorrhages, which were liable to come on at any time without any exciting cause.

I opened her abdomen for the third time ten days ago, and found exactly what I had expected, viz., firm intestinal adhesions to the anterior abdominal wall, intra-pelvic adhesions, and a hard, fibrous nodule in the upper border of the right broad ligament. This was examined microscopically, but contained no ovarian stroma. A similar nodule, the size of an almond, removed from the left cornu, was undoubtedly the remains of the tube that had become hypertrophied. Uterus moderately enlarged, movable, and in its normal position. Patient had a perfectly normal convalescence, and I await the result with great interest. Drainage after the second operation, but

not after the first and third. [Six months later the patient still flows as before, although she has less pain. During the past four months she has been under the care of a well-known electro-therapeutist, who has been using electricity regularly *secundum artem*, apparently with little benefit—in fact the hemorrhages are rather more frequent and profuse than before. I now believe that total extirpation of the offending organ offers the only prospect of a radical cure.]

CASE VII.—Patient aged twenty-five. Laparotomy for severe dysmenorrhœa, which had been unrelieved by prolonged palliative treatment. Ovaries generally diseased, tubes fairly normal. No adhesions. Uterus small and anteflexed. Convalescence rapid. Menstruation before operation regular and not excessive. Patient left the hospital too soon, and probably had an attack of peritonitis, as she reported to me at the end of a few weeks with her uterus large and tender and extreme sensitiveness around both stumps. For a year she has had constant pain, with flooding at intervals of from three to six weeks. No abatement of symptoms in spite of constant local and general treatment. Uterus three inches in depth, endometrium soft, sensitive, and bleeds easily.

Diagnosis—endometritis fungosa, due to causes above stated. I am trying to persuade the patient to submit to an examination under ether, after dilating the os with tents, so that thorough curetting and free drainage may be effected.

CASE VIII.—Prostitute, aged twenty-three. Double oöphoritis and salpingitis of gonorrhœal origin; extreme dysmenorrhœa and constant pain. Menstruation regular and flow slight. Laparotomy. Convalescence perfectly normal. No period for five months, and was comparatively free from pain. She then began to flow profusely at intervals of from ten days to three weeks, and this has now continued for eight months, during which time her virtue has not been above suspicion. Examination a week ago showed that the uterus was large, sensitive, and anteflexed, with general tenderness and induration behind it. Doubtless the continual congestion of the pelvic organs explains the persistent hemorrhages, which have not, however, a periodical character.

CASE IX. — Patient aged twenty-eight. Laparotomy for double gonorrhœal pyosalpinx and oöphoritis. Numerous adhesions. Drainage. Normal convalescence. After a period of almost complete relief the patient again complained of the old pains, and has for almost two years had a profuse flow at irregular intervals, due, I suppose, to the uterine congestion caused by the re-formation of perimetric adhesions. [A second laparotomy was performed a month ago, and the operator (Dr. Polk) informs me that he removed a nodule from one stump which apparently contained ovarian tissue.]

CASE X.—Patient aged forty-two (?). Referred to me at the Cancer Hospital as a case of malignant disease of the corpus uteri. Extremely anæmic from menorrhagia; no metrorrhagia. Cardiac trouble. Albuminuria. Examination showed a small subperitoneal fibroid behind the uterus, measuring four inches in depth. I feared to administer an anæsthetic, but introduced tents, explored digitally, and used the sharp curette thoroughly; the latter without ether. Removed a quantity of fungosities, supposed on gross examination to be sarcoma. Subsequent intra-uterine applications. Only temporary benefit. Discharged, but returned in a few months, on account of monthly flooding, in the same condition as before. Laparotomy considered unjustifiable by reason of the wretched condition of the patient, and the presence of cardiac and renal trouble. Dilatation and curetting, with removal of granulations, as before. Temporary relief. Referred to Woman's Hospital for intra-uterine galvanization, which was tried faithfully and was continued after she left the hospital, with some benefit at first, though menorrhagia subsequently recurred. [Her physician informs me that she flows as much as ever, and will not survive many days.]

In this connection it is interesting to note the frequent association of fibroid tumors with cystic degeneration of the ovaries. Now cystic ovaries are often a potent etiological factor in menorrhagia (shown by Tait). May not, then, the adnexa be the cause of uterine congestion in many of these fibroid cases, especially when the tumor is small, quite as much as the neoplasm itself?

The deductions which I would make are briefly as follows:

In all cases of uterine hemorrhage, however obscure, the immediate cause of the hemorrhage lies within the uterus—hypertrophy of the endometrium; the remote cause is any condition of the pelvic organs or tissues which leads to chronic congestion of the uterus. The detection of the extra-uterine cause is often extremely difficult, especially if it is localized in the shape of small perimetric nodules or adhesions. The latter condition is rendered probable by the fact that the patient has previously had both ovaries and tubes extirpated, while her uterus remains retroflexed and adherent. Persistent flow after removal of the adnexa is not necessarily due to remains of ovarian stroma. Such a flow is not a true menstruation, since it is more profuse, is atypical, and usually differs entirely from the patient's former monthly period. The uterus will be found to be large, the endometrium hypertrophied and sensitive, bleeding easily.

The prognosis is doubtful. Unless the true etiological factor can be reached and eliminated we can pronounce no positive opinion as to the duration of the hemorrhage.

Treatment.—If there is no positive contra-indication divulse (or better, dilate with tents) and curette thoroughly, remembering that this is usually only a palliative measure. The intra-uterine tampon of iodoform gauze is a valuable adjuvant to this operation. Pelvic adhesions and indurations should be treated according to the ordinary methods. Electricity will certainly accomplish a great deal (whether the cauterization of the endometrium or the reduction of the congested uterus is aimed at), though laparotomy may eventually become necessary.

OUR OPERATING-ROOMS AND METHODS OF PREPARING PATIENTS.[1]

BY LEROY BROWN, M.D.,

HOUSE SURGEON OF THE WOMAN'S HOSPITAL, NEW YORK.

I HAVE been requested by the President of the Alumni Association to give a brief *résumé* of the present methods carried out by us in preparing for operations. Responding to that request I submit the following scheme, which is carried out in every detail.

Our operative cases are naturally divided into two classes: those of minor character and those of major import. The former, operations upon the pelvic floor, are conducted exclusively in the operating-rooms of the separate pavilions.

Those of major character are performed in a room lately built for the purpose. This room is separate from the main buildings, yet intimately connected with the rooms to be occupied by the patients after operation.

The operating-rooms in each pavilion have undergone a gradual transformation, so far as the rooms themselves will permit. They have been each furnished with modern plumbing, having all fixings exposed. Each has a sterilizer, in which instruments, after every operation, are steamed for an hour at 212° F. The operating-tables are of the usual gynecological pattern, without upholstering. They are covered by a movable pad encased in a rubber slip. Each of these pads possesses a duplicate cover. After operations these rubber covers are thoroughly cleansed with ammonia, and finally washed with a watery bichloride solution, 1 to 1,000. During the process of cleansing the duplicate is being used. The operating-room for major cases is one twenty-five feet square.

[1] Read at the Sixth Annual Meeting of the Alumni Association of the Woman's Hospital, January 19, 1891.

It has a large skylight and two side-windows. The floor is of Portland cement. This is treated once a week with a hot solution of paraffine in turpentine, and afterward rubbed to a dull gloss. In this condition it is thoroughly impervious to water. The hot and cold water, with its plumbing, is of the same approved pattern as in the pavilion rooms.

The operating-table is of iron, and one of Landeau's pattern, bearing a solid rubber cushion one-third of an inch thick. The sponge tables and dressing-stands are furnished with heavy plate-glass tops. The instrument-case has also movable glass shelves. Near the operating-table are placed two large-sized sterilizers of sufficient size to accommodate all instruments, towels, and dressings used in an operation. Each of these operating-rooms is under the direct charge of a well-trained nurse, and the effort of each is to excel the others in the cleanly neatness of their respective rooms.

Sponges are bought by the pound, and as received are gritty to the feel. They are placed in small quantities in a cloth bag and beaten well, from here they are placed in running water and energetically kneaded, during which each is examined for parts of shells and spiculæ. This kneading is continued until the water comes off clean. They are then soaked for twenty four hours in a solution of muriatic acid of sufficient strength to be disagreeably sour to the taste. From here they are again placed under a strong stream of running water and kneaded until the water is clean and the sponges freed of all foreign matter. They are afterward kept in a watery solution of carbolic acid, 1 to 20. Sponges that have been used in an operation are washed free of color in cold water, then placed for forty-eight hours in a covered jar containing an ammonia solution of one part strong ammonia to six parts of water. From this they are transferred to warm running water and handled until the water runs away clear. They are then placed in carbolic acid (1 to 20) for future use. The life of a sponge thus used is some two to three weeks, after which it is discarded. All sponges contaminated in any way by pus or suspicious matter are burned.

Ligatures and Sutures.—In the preparation of our ligatures and sutures extreme care is exercised. The member of the staff having this in charge previously cleanses his hands and arms with soap, water, and brush, and covers his suiting with a clean linen gown.

The silk, linen carrying thread and silver wire are each wound upon glass reels which have been in a bichloride solution. These laden reels are boiled for one hour in water. From this they are placed at once in their respective boxes under absolute alcohol. The catgut is bought unprepared in sizes from 00 to 2, also a larger pedicle, size No. 8. This as it comes is in coils of two metre lengths, and of an amber color with a greasy feel. The small pieces holding the strands of each coil closely together are first cut, allowing the entire roll to open out widely, separating each turn from the other. A dozen coils of each number thus loosened are lightly tied together with a long ligature by which they are lifted in and out of solutions. They are immersed for two to three hours in ether and then for a few minutes in alcohol. The gut is then placed in a watery solution of bichloride, 1 to 1,000, for twelve hours. From this it is transferred to a large covered vessel containing absolute alcohol. During the following week the alcohol is changed twice.

Thus prepared the gut is kept under alcohol as a stock supply, and is wound as desired upon sterile reels. Samples of the gut thus prepared have been sent to Dr. Freeborn, the pathologist of the hospital, for examination. From them he has failed to get any cultures, even from the centre of the No. 8 size. The gut after being wound, for fear of having been rendered impure in the act of winding, is kept under boiling alcohol for one hour before it is transferred to reel-boxes, where it remains under absolute alcohol.

If there should be a cause to suspect the antisepsis of any reels of gut, from the alcohol getting accidentally low or otherwise, this reel is boiled for one hour in absolute alcohol and replaced in the box.

Silk-worm gut is bought in bundles of 100, 13 inches long. The curly ends are cut off and a few bundles at a time are placed under a watery bichloride solution, 1 to 1,000, and thus kept permanently.

Instruments.—Before major operations such instruments and needles as will be needed are selected, placed in a tray and sterilized for one hour at 212° F. From here they are removed just before the operation to the instrument-trays and kept under water that has been boiled. During the operation no instrument is allowed to get dry.

After every operation in the hospital, the instruments, needles, and sponge-holders in use are first cleaned with brush and water, then steamed at 212° F. for a half hour. The instruments used in major operations have received an extra heavy plating and are not oxidized by being sterilized. By this we are spared the necessity of using polishing powders, which in an aseptic sense is of the utmost importance. Having thus prepared the sponges, ligatures, and instruments we get ready for the two classes of operations in a somewhat different manner.

For operations upon the pelvic floor rigid antisepsis is followed, both before and during the operation.

For those of major character, thorough antisepsis is practised in preparing the patient and her surroundings. During the operation absolute asepsis is exercised.

For minor cases, if their condition will permit, two days previous a compound cathartic pill is given night and morning up to the night previous to the operation, at which time the lower bowel is cleared out by a stimulating enema. The morning of the operation the lower bowel is still further cleared of any matter that may have crept down, by a warm water injection. The night previous the pubes and vulva are shaved, vaginal douches are abundantly used and one hour before the operation a copious douche of bichloride, 1 to 2,000, is given.

The patient being under ether and in position she is surrounded by towels wet with bichloride, 1 to 2,000, under which are rubber sheets.

Instruments are kept in carbolic acid, 1 to 30, and needles with carrying threads in carbolic acid, 1 to 20.

For major operations the morning before the cement floor is washed with bichloride, 1 to 1,000. The operating-table and sponge-tables are treated in the same manner, and all corners and places where dust can collect are carefully cleansed with wet bichloride cloths.

The patient for three days before is given frequent baths, and as to purgatives is prepared as for other operations.

The night before the operation the entire abdomen, pubes, and vulva are shaved and well washed with soap and water. Over the abdomen there is then fastened a towel bearing a thick emulsion of castile soap. This towel extends from the umbilicus to the pubes; with this the patient sleeps. On the morning following, when the abdomen is again cleansed with water, the superficial layer of the skin is found free of all fatty matter. There is then placed over the original site of the soap-dressing a towel wet in bichloride solution, 1 to 1,000.

This is not removed until the time of the operation. Before taking ether, the patient is clothed in a clean suit of flannel underwear. The under-vest is tucked well up around the chest, and covered by a sheet folded upon itself a number of times. The lower extremities are wrapped in blankets. The patient being upon the operating table, is covered above and below the abdomen by rubber sheets, then carefully surrounded by towels that have been sterilized for one hour in moist steam. The instruments lie in water that has been previously boiled.

In all operations, the operator and his assistant, including the nurses, are covered by clean linen gowns.

At major operations, our guests are required to wear long gowns, covering entirely their street suits.

In the after-treatment of our vaginal, perineal, and cer-

vix cases at present, we differ somewhat from that of former years. As far as possible they are treated without douching, and none are used during the first week unless indicated, or especially ordered by the surgeon. With the perineal cases, our desire is to keep them thoroughly clean, yet as dry as possible. Toward this end, some form of dressing is used. This is changed after each defecation, and whenever the patient passes her water, or has it drawn. With the changing of the dressing, the perineum is always irrigated with a bichloride solution. The dressing of the abdominal wound is one of a damp surgical antiseptic character, which is not disturbed until the seventh day, unless there is an indication. For abdominal sections, in case there may be required some iodoform gauze for packing a general oozing in the pelvis, a couple of fifteen yard rolls, two to three inches wide, are always on hand. These, just before the operation are sterilized for one hour at 212° F., and kept near at hand in a closed jar ready for use.

In the after-treatment of our cases catheters are necessarily of frequent use. With us, as with all hospitals, these have been a source of considerable trouble and annoyance, both to the patient and to the doctor. All care possible may be exercised, and yet soon the rubber catheter roughens, and at no time can anyone absolutely say they are clean. Of late we have been using throughout the hospital glass catheters of a pattern a little different from the straight ones first introduced by Dr. Kelley, of Baltimore. These are boiled after each use, and kept covered by a watery bichloride solution. With these the vesical and urethral irritation following catheterization has been reduced to a minimum.

NOTES ON THE TREATMENT OF TETANUS WITH A NEW VIEW AS TO ITS PATHOLOGY.

By R. F. LICORISH, M.D.,

BARBADOS, WEST INDIES.

To physicians practising in the warmer climates, tetanus is always a disease of the greatest interest, from the fact that it is a disease not only of a most fatal character, but also the one unsurpassed in frightful sufferings to the patient, if we leave out of consideration the fortunately rare hydrophobia. Its relative frequency, too, in such climates adds much to its interest.

It would be quite out of place here to go into the symptoms and course of ordinary cases of tetanus, for however infrequent it may be in certain countries, it occurs often enough for any physician of experience to gain a practical knowledge of it. I shall therefore content myself with recording those rare cases which I have encountered in a practice of ten years, and advocating the course of treatment which has proved the most successful in my hands, as well as hinting at a pathology based on the above observations. The first symptom of this dread disease, as given by most authors, is a stiffness of the muscles of the neck and jaw. This, however, has not been my experience, which goes to show that prior even to that is a pain or indescribable sensation in the epigastrium. In this I am at one with Dr. W. A. Hammond, who lays some stress on the statement that this epigastric pain is the first recognized symptom. Its occurrence he attributes to spasmodic contraction of the diaphragm; this view of its causation appears most reasonable, and has been held by me for many years.

About seven years ago, however, I encountered a case of tetanus in which the significant pain was situated in the umbilical region instead of the customary epigastric site, and since that time I have met with two similar cases. Such a shifting of the site of that symptom, not being in harmony with its accepted cause, I looked about for some other explanation with the result that I now consider tetanus a disease of the sympathetic nervous system, and the pain hitherto attributed to spasmodic contraction of the diaphragm to be pain in the ganglia of the abdominal sympathetic nerves.

This view, too, seems strengthened by the result of treatment now to be mentioned.

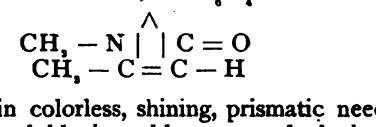
Tetanus, as all are aware, is a disease chiefly met with among the poor and ignorant, and these, possibly not aware of its dangerous nature, and probably, too, from their inability to summon the earliest medical aid, resort to such means as are at their command; such means being, in this as in most other diseases, chiefly purgatives. Now, I have found that as a result of the early resort to purgatives, the disease more readily yields to treatment; and so frequently has this been observed that it is my rule to give a more hopeful prognosis in such cases.

Treatment by purgatives appears to have been that mostly in vogue some forty or fifty years ago, and I have been informed by an aged practitioner that such a course of treatment was more successful than that of the present day. Such a statement, however, is not borne out by Dr. W. A. Hammond's statistics of treatment by purgatives. Let it be borne in mind, however, that the treatment now advocated by me is not by purgatives alone, but in conjunction with that treatment on modern lines—by means of nervous sedatives, etc.—which has proved most successful. This combined treatment, purgatives and belladonna, has proved itself so successful, in the hands of another practitioner of this island, that he has declared to me that since its adoption he has ceased to look on tetanus with his former forebodings. The purgatives giving the best result are the salines. The practitioner referred to above, however, begins with a dose of calomel, and the beneficial result of such a treatment is considered by me to be due to its removing from the intestinal tract all fecal matter, as such under the circumstances must act as direct irritants to the parts chiefly involved. It may also act beneficially by its direct action on the congested vessels of the viscera and contiguous parts. Whether the views above expressed will harmonize or clash with the germ theory of tetanus I am unable to say. I must acknowledge, however, that I see no reason why they should not be in harmony with such a theory. This much, however, must appear plain to all who have had much experience with tetanus: Its germ must be one which may be present with us at any time without giving rise to trouble; one that is harmless until rendered harmful by certain changes brought about through economy by a wound or cold. Recent experiments go to prove that the mischief-maker is not the germ itself, but a product of it, it being affirmed that the introduction of the living germs into the system is of itself productive of no harm.

May 30, 1891.

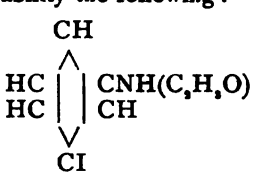
Progress of Medical Science.

Iodantipyrin and Iodantifebrin.—Iodantipyrin is antipyrin in which one hydrogen atom has been substituted by iodine; it is, therefore, iodphenyldimethylpyrazolon, $C_{11}H_{11}INO$, and its chemical constitution is in all probability the following:



It crystallizes in colorless, shining, prismatic needles; is with difficulty soluble in cold water and alcohol, more readily soluble in these menstrua when hot. It is absolutely tasteless, and has no especial odor. A two-tenths per cent. solution of this body does not prevent fermentation of grape-sugar. Its melting point is 160° C. Dr. Munzer has studied the effects of this remedy in typhoid fever and in pulmonary tuberculosis, diseases whose temperature curves are well established. As regards the antipyretic effects of this compound, Dr. Munzer's results show that it corresponded absolutely with that of pure

antipyrin, a fact which might be expected; for it is probable that through the action of the hydrochloric acid of the gastric juice this body would be decomposed, and we might, therefore, with reason look for the effects of antipyrin on the one side and iodine or iodide of sodium on the other. Dr. Munzer states that his results have shown him that in all probability such a decomposition actually does take place. He adds that, in doses of from seven and one-half to twenty-two grains, marked reduction of temperature is produced, which is accompanied by sweating, but without collapse and without chills. Pulse and respiration are slowed in proportion to the reduction of temperature, while the pulse becomes somewhat fuller and respiration somewhat freer. Eleven different cases are reported in which this substance was used as an antipyretic, the general result confirming the supposition above announced that its action is identical with that of antipyrin. The urine of every patient to whom iodantipyrin was given showed a marked iodine reaction after fifteen to twenty-two grains of this remedy had been given, while the reaction of antipyrin in the urine with nitric acid was but faintly marked. If a perfectly clear, watery solution of iodantipyrin is tested for the iodine test with nitric acid and chloroform, a negative result is obtained, but a positive reaction is produced when either the solution or the nitric acid is heated, or when the reagents are allowed to remain in contact for half an hour. It would, therefore, seem that it is through the action of nitric or hydrochloric acid that the iodine of the iodantipyrin is set free, and the author reports some experiments which seem to show that this decomposition of iodantipyrin actually occurs in the stomach; so that, therefore, the therapeutic action of this remedy is not that of a new compound, but that which might be expected from the simultaneous administration of antipyrin and iodine, either free or in the form of a salt. It thus being seemingly established that this compound possesses no antipyretic effects other than those of antipyrin alone, the question naturally suggests itself as to whether the iodine when so administered in combination differs in its therapeutic effects from iodine administered alone. Here the author's experiments unfortunately are not sufficiently complete to admit of any conclusion. He, however, reports a case of persistent headache, apparently of syphilitic origin, which was rapidly cured by the administration of this compound, while a case of acute articular rheumatism is stated to have been entirely relieved from pain within six hours of the administration of the first dose. Further studies evidently are desirable before any positive conclusion can be formed as to the effects of the iodine in this composition. Iodantifebrin is acetanilide in which a hydrogen atom has been substituted by iodine, the formula, therefore, being $C_8H_8INHC_2H_3O$, and its constitution in all probability the following:



Dr. Ostermayer prepared this substance from paraiodaniline, the product being with difficulty soluble in cold water, in alcohol, and ether, readily soluble in hot alcohol, and especially in hot glacial acetic acid. It has no taste and no odor, and melts at about 181½° C., and in two-tenths of one per cent. solution the substance does not prevent the fermentation of urine or of milk-sugar. The author's experiments as to the action of this substance show that, as an antipyretic, its effects were absolutely negative, and, in fact, no action was noted to follow its administration which could be attributed either to the antifebrin or to the iodine. This, of course, may be explicable as due either to non-absorption from its insolubility, or even, if it is absorbed, that the addition of iodine to its composition has destroyed the activity of the antifebrin. After its administration neither iodine nor antifebrin could be recognized in the urine, an observation which seems to show that this substance is not absorbed in the slightest degree by the alimentary canal; for tests of the iodantifebrin solution give both the iodine test and the characteristic antifebrin reactions. The author's experiments, therefore, are simply valuable as having removed two more substances from the list of new remedies from which wonders may be expected.—*The Therapeutic Gazette.*

Aspergillary Phthisis.—Dr. Potain records the following case of this disease which occurred in a man who came under his care. Six years ago he had pleurisy of the left side; five years ago a second attack, now on the right side. It had to be tapped. He has had cough for the past two years, and three attacks of hæmoptysis. He is wasted. Now he presents signs of early phthisis at the left apex. His expectoration is thick and nummular, but no tubercle bacilli are to be found in it. The patient has the appearance of an individual affected with tubercular phthisis. Bacilli are absent from the sputum under two conditions: 1. Before softening has taken place. 2. When the secretion from the bronchial tubes is so abundant as, so to speak, to drown the tuberculous particles. Instead of tubercle bacilli, the fungus aspergillus was found in the sputum. This fungus has only been found in those who are engaged in artificially overfeeding pigeons. Millet grains soaked in water are taken into the mouth and then blown into the pigeon's mouth. The aspergillus is very common upon millet grains. It establishes itself in certain tissues. Pigeons are affected with a swelling in the floor of the mouth, which is called a chancre. In the centre is found the aspergillus. In the viscera of the pigeon it presents granulations indistinguishable from tubercular granulations. There may even be a giant cell in the centre. The results caused by this mould in the pigeons may be very serious. If the powder be breathed by a pigeon it will die in two or three days of a severe pneumonia. In man the fungus gives rise to an otitis. It has been found in cases of gangrenous pneumonia and bronchial dilatation. Here it finds a suitable medium; but under other circumstances it produces a disease indistinguishable from pulmonary phthisis. Inoculation from cultivations into the veins of animals is very fatal, and the liver is then especially involved. In man the spores are probably inhaled, for the millet grains come from sacks where there is much powder. There are other forms of pseudo-tuberculosis—such, for instance, as that occurring in the gallinacæ, but this has not been observed in man. The aspergillus may thus give rise in man to a disease which progresses very slowly, and as yet no pathological anatomy is known. The malady is more favorable than tuberculosis. One case—that of a woman where the aspergillus and elastic tissue was found in the sputum, recovered. The affection seems to run its course without fever. The patient must give up his occupation, but as yet there are no other special indications for treatment.—*L'Union Médicale.*

The Evils of Public Hypnotizations.—Dr. Surbled reports the following case in the *Journal des Science Médicales de Lille* for May, 1891. On the occasion of a public exhibition of hypnotism, an intelligent man, aged fifty-two, of healthy antecedents, was profoundly impressed with what he had seen, and continued to talk of the wonders of "animal magnetism" for days after the performance. Soon, however, he began to act rather queerly and in about two weeks became acutely maniacal and died shortly after of encaphalitis. During his delirium all his thoughts were of hypnotism and he was continually making passes as if he had subjects before him. Dr. Surbled regarded his death as the direct result of the impression made upon an excitable brain by the public hypnotic performance.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE NEED OF SURGEONS ON STEAMERS TO SOUTHERN PORTS.

IN his Annual Report to the Commissioners of Quarantine of the State of New York, for 1891, Dr. William M. Smith calls attention to the great benefit that would result to this port were it made obligatory upon all companies running steamships between this city and tropical countries to employ ship-surgeons. At present the law provides that "every steamship or other vessel carrying or bringing immigrant passengers, or passengers other than cabin passengers, exceeding fifty in number, shall carry a duly qualified and competent surgeon, or medical practitioner." This is a curious provision, and we fail to see why one or two hundred cabin passengers are not just as much entitled to have their health looked after as are fifty-one steerage passengers. The law presumes that the cabin passengers can provide protection for themselves, but evidently they cannot do so any more than the immigrant passengers, unless each one engages the services of a travelling medical companion for the trip —a rather expensive luxury. Of all the lines whose steamers run between New York and ports in Mexico, Central and South America, and the West Indies, but two employ surgeons. The English do better than this in theory, for even the cargo-boats running between Southampton and the West India Islands have each a surgeon aboard. We may remark, however, parenthetically, that if these surgeons are no better than some they send on ships to this country, it would perhaps be better for the crew were they left to the care of the captain in case of illness.

It is, however, not only for the protection of the passengers that the employment of ship-surgeons is to be desired, but as much, if not more, for the protection of this city from visitations of contagious diseases of the tropics. In consequence of this absence of "duly qualified surgeons, or medical practitioners," says Dr. Smith, "such an intelligent history of cases of sickness among passengers or crew as will afford a satisfactory conclusion as to the character of the disease cannot be obtained. Frequently deaths occur among passengers or crew at the port of departure, or during the voyage, and the health officer is compelled to make up his conclusions as to the nature of the disease from the story of the captain, who knows much more of navigation than he does of disease or its treatment, or from the purser, whose attention to his freight bills has left little time, and perhaps less inclination, to observe the symptoms and to administer to the wants of the sick. The want of intelligent supervision and history of the sick on vessels from tropical ports, particularly of those from yellow-fever infected ports, may leave the health officer in doubt or liable to be mistaken as to the source and character of the disease; in the event of his mistaking the nature of the disease that has occurred, an infected steamer might be allowed to proceed to her dock in the city, and thus the greatest source of danger to the public health be incurred—the source from which numerous epidemics of yellow fever in New York City have originated. The safety and comfort of passengers on steamers running to those ports also require the employment of a competent medical officer."

There can be no question, we think, as to the advisability of insisting upon the employment of surgeons on the steamers running to Southern ports—by that we mean tropical ports—but in order to have efficient men they should be really competent men, and should be so secure in their tenure of office that they could speak the truth, if occasion required, without the certainty of losing their places for so doing. It is satisfactory to note, however, that, despite the absence of medical officers on these steamships, there have been but eight cases of yellow fever admitted to the Quarantine Hospital during the past three years, four of which were from United States war vessels from Port au Prince, while during the three years previous to those, fifty seven cases of the disease were admitted. This difference is doubtless to be attributed, the Report states, to the greater care exercised by masters of vessels to prevent their passengers and crews from going ashore at infected ports, and in anchoring their vessels and receiving cargo by lighters at a considerable distance from infected wharves.

It is to the interest of the owners of the vessels, as well as it is to that of the public, to have competent surgeons on their steamers, for by so doing they are sure to prevent the trouble and expense consequent upon a detention at Quarantine during the time necessary to enable the Quarantine officers to assure themselves as to the character of some suspected case of disease. But, we repeat, these surgeons must be thoroughly competent and must be independent in a measure of the steamship company employing them, otherwise their presence will be only misleading, giving a false sense of security, and perhaps leading the health officer into error instead of helping him to avoid serious mistakes.

Dr. Smith has had much to say in his Annual Reports concerning the inadequacies and defects of the ocean steamship medical service, and no one knows better than he does, the value of a competent service and the worse than uselessness of an incompetent one. There seems to have been little accomplished as yet by these appeals for reform, but that is no cause for discouragement. All reforms require time for their accomplishment, and we doubt not this too will come if its advocates be only persistent and untiring in their appeals to those whose interests are so deeply concerned in it. If the health officer finally succeeds in stirring up public interest in this most important subject, it will be not the least of the good that he has accomplished during his term of efficient service at Quarantine, and we wish him the success which his earnest advocacy of the right deserves.

POLITICS IN OUR STATE INSANE ASYLUMS.

We trust that our readers will direct their attention to an item printed elsewhere, regarding the conference of the Superintendents of New York Insane Asylums in this city. In particular they should note the fact that these Superintendents refused to concur in a resolution to discharge certain patients who were practically recovered, or who at least could be easily cared for by relatives and not at public expense. The reason given for this refusal was that it would be "disastrous politically." This means, if it means anything, that there are persons who are kept confined in our State lunatic asylums and supported by the public mainly because their friends have a political "pull," and do not wish the expense or trouble of taking care of them. It means, also, that the State Superintendents are subjected to political influences to such an extent that they do not dare to do what seems manifestly just to patients and to the public. We evidently still need civil service reform.

A FANATICAL CONGRESS.

A society of medical gentlemen calling themselves the American Medical Temperance Association met last week at Prohibition Park, Staten Island, and delivered themselves of various opinions regarding alcohol and inebriety. Although some estimable physicians were present, and some interesting papers were read, we cannot help but think that the general effect of the "Congress," as it was called, was distinctly bad. When doctors gather together to discuss scientific topics it is supposed that they do so as scientific men, and that they treat subjects in a scientific, as distinguished from a sentimental, way. This is just what the Prohibition Park gathering did not do, and thereby they lowered the dignity and authority of medical science. When a group of medical enthusiasts gather together, and in the name of the profession utter things manifestly absurd and contrary to fact, experience, and common-sense, the profession as a whole is injured by the performance. Because the use of alcohol causes many evils, no medical man is justified in saying that the smell of it invariably kills; and statements almost as extravagant as this were made at Prohibition Park.

Lest we be considered unjust in this condemnation, we present here, as a sample, the principles advocated by Dr. Charles G. Davis and the promoters of the "National Temperance Hospital." These are: "1. Alcohol is a poison. 2. When taken into the system it is not assimilated, but passes the round of the circulation, and is finally thrown off through the organs of excretion, unchanged. 3. While passing through the body it disturbs the various physiological processes, and in this way lays the foundation for disease. 4. It does not stimulate or strengthen, but it depresses and weakens. 5. As it is not assimilated it cannot be a food. 6. As it disturbs every physiological process it cannot be a medicine. 7. There is no disease afflicting the body that cannot be more successfully treated without than with the use of alcohol."

Now, it will be admitted by all informed and honest physicians that nearly every one of the above principles is absolutely untrue. Alcohol is unquestionably a food, using the term in its broad and rightful sense. A man or an animal can live longer on alcohol and water than on water alone. This has been demonstrated, and is absolutely beyond denial; people who still deny it are either ignorant or untruthful. Again, alcohol unquestionably does stimulate, and there are few physicians who have not seen a dangerous crisis tided over by it. It is a medicine also, and one of so much value that we should regard a physician who practised his art entirely without it as in danger of suits for malpractice.

Some of the gentlemen who took part in the Congress referred to did not take the extreme views above indicated, but it was very evident that the convention had no sympathy with those who were not radical in their views. Hence, it appeared that the meeting was convened rather to promote the views and stimulate the enthusiasm of teetotalists, than to secure a sober and wise discussion of a serious social problem.

We do not desire in the least to belittle the evils which surround and proceed from the use of alcoholic stimulants. They are enormous and appalling. But we believe that the best way to fight such evils is to present the facts exactly as they are, and to work out methods of reform accordingly.

INCOMPETENT BOARDS OF STATE MEDICAL EXAMINERS.

The recent *fiasco* of our State Regents in selecting a State Board of Medical Examiners makes very timely a letter written by Professor H. C. Wood to the *University Medical Magazine* on this subject. Professor Wood has always been in favor of State control over entrance into the medical profession; but he suggests that a sharp watch must be kept over the new State Boards of Examiners, or they will become a nuisance. He adds, in illustration, that if such questions are to be asked as those which the New Jersey State Medical Examining Board formulated in the late examination upon Materia Medica and Therapeutics, "it cannot be long before the profession will demand the repeal of the legislation for which it is now becoming clamorous."

Professor Wood asserts that he not only could not answer the questions himself, but should be ashamed of himself if he could.

"Take question number one," he continues: 'What is dialyzed iron, and how is it prepared?' Dialyzed iron is a worthless preparation of iron, which has never been recognized by the United States Pharmacopœia, and is, I believe, no longer used by physicians who are anyway near abreast of the times. In my lectures I simply mention it as a pharmaceutical curiosity that is worthless. It seems to me a first principle of examinations by Medical Boards should be that attention must be confined to official preparations. If the candidate is to be asked a lot of foolish questions upon every kind of preparation, invented by some perhaps semi-addled pharmaceutical brain, how is he to gain any knowledge? He must be forever running after the chaff that is blown away by his teachers.

"Then again, question third. How many practical doctors can give the specific gravity of chloroform, and what use would it be to them if they could?

"Question fourth: 'Give the formula and mode of making camphorated tincture of opium.' If there were

a candidate for graduation in the University of Pennsylvania who could answer this question, I would certainly examine him most severely to see whether he had not grasped at the shadow and lost the substance of true knowledge. Our men are all taught that the strength of paregoric in opium is two grains to the ounce, that it contains some camphor, and that is all that is necessary to know about its materia medica or pharmacy.

"Question number five: 'Give the formula of the compound cathartic pill.' I doubt whether there can be found a doctor in Philadelphia, in sufficient repute to have a practice of three thousand dollars a year, that could answer this question; to know the effect of this conglomeration of cathartics is what the medical practitioner needs. Again, why should a doctor be required 'to describe infusion, decoction, maceration, and digestion,' and not one word asked about the physiological or remedial action of such remedies as opium."

Professor Wood's criticisms are very interesting, and we hope that they will excite attention and be taken to heart by those whose business it is to conduct the State examinations.

THE LAW AND THE MEDICAL STUDENT.

A FEW years ago a student of the Woman's Medical College of this city was rejected on the final examinations. She went to law about the matter, and in some way was able to prove that in fact her papers reached the average percentage necessary for a degree; and she got her diploma.

Recently a student of Bellevue Hospital Medical College after taking his courses there came up for a degree and was refused an examination. He secured a writ of mandamus compelling the College to examine him and grant him his degree if the examination proved satisfactory. The Court of Appeals has affirmed the decision of the Supreme Court in the matter, and the young man must now be examined. We shall be interested in learning if he passes.

News of the Week.

The Disgrace of a Medical Man.—At a special meeting of the Berlin Medical Society, held July 19th, it was voted to expel one of the members on the charge of long-continued and systematic practice of frauds in connection with the municipal sick fund. The physician had been in the habit of drawing fees for fictitious cases, and had made from this source some 10,000 marks.

Dr. James W. Babcock, Assistant Physician at the McLean Asylum in Somerville, has been appointed Superintendent of the State Asylum at Columbia, S. C.

American Public Health Association.—The Nineteenth Annual Meeting of the American Public Health Association will be held at Kansas City, October 20, 21, 22, and 23, 1891. The Executive Committee have selected the following topics for consideration at said meeting: "Sanitary Construction in House Architecture"—(*a*) Heating, (*b*) Lighting, (*c*) Drainage, (*d*) Ventilation; "Railroad Sanitation;" "Meat Supplies;" "Milk Supplies of Cities;" "Arsenical Papers and Fabrics;" "Isolation Hospitals for Infectious Diseases in Cities;" papers upon any of the subjects upon which special committees have been appointed; papers on miscellaneous sanitary and hygienic subjects. Blank applications for membership in the Association can be obtained from Dr. I. A. Watson, Concord, N. H., or Dr. E. R. Lewis, Kansas City, Mo.

The Superintendents of State Hospitals for Insane of New York and the State Lunacy Commission held a conference in this city last week. Among other matters a lengthy discussion was had on the proposition that the State hospitals for the insane should be permitted to receive private patients from any part of the State without restrictions, except those prescribed by law, at a rate not to exceed $10 per week. The proposition was finally agreed to on a vote by hospitals, all being recorded in the affirmative with the exception of Middletown, which declined to vote. The conference refused to concur in the recommendations of the Commission in Lunacy, that as at all the State hospitals there are certain public patients who, while not in condition to be discharged "recovered," may yet be discharged into the custody of relatives or friends or guardians; therefore, in order to reduce public taxation and to put the burden of support of such patients where, under the statute, it rightfully belongs, from the corps of employees some one discreet and competent man be appointed as agent of the State for the specific duty of looking up the relatives or legal representatives of any and all public patients who may be supposed to come within the above-defined category. This suggestion was rejected on the ground that it would be likely to work disastrously politically. It was, however, agreed that there are too many patients idle in the State hospitals who might be employed in the promotion of their own improvement and in the better administration of the hospitals by taking up some industry that may serve the purpose, such as the making of brushes, brooms, mats, rugs, straw braid, baskets, wooden-ware, willow-ware, and other articles, and it was resolved that steps should be taken to that end.

Dr. Albert Skinner, the oldest practising physician in Niagara County, and father of Dr. Winslow Skinner, of New York, died last week at Youngstown, aged eighty-four. He was President of the Niagara County Medical Society for many years, and one of the foremost amateur botanists of Western New York.

Inebriety and Medical Practice.—The Secretary of the State Board of Health of Iowa announces that he is convinced that habitual drunkenness constitutes "palpable evidence of incompetency," as the law reads, and that therefore the physician given up to inebriety should be deprived of his certificate entitling him to practise in that State.

A Case of Leprosy has been discovered in this city in the person of Chin Hop Sing, a Chinese laundryman, who has been pursuing the national avocation here for the last year and a half. A good deal of unnecessary excitement has been caused by the discovery. Leprosy is so slightly contagious that the public danger from it can almost be disregarded. No case is known of the disease originating by contagion in this country.

Curiosities of Science.—It has been found that the serration of the edges of the cranial bones is produced by the continued pulsation to which the vault of the skull is subjected during the completion of the ossifying process. The odor of urine after eating asparagus is due to methyl mercaptan. So says Professor Wencki. Dr. Klingel has found that the height of the cupola of the tympanum averages 4 mm. instead of 5 to 6 mm. A Swiss scientist announces that a gramme of Gruyère cheese contains 90,000 microbes when fresh, and 500,000 when old. This is a genuine count.

There is Another Over-Doctored Country besides America, and it is Belgium, according to Dr. L. Merveille, of Liege, who says that in 1884 the proportion of medical men to population was 42 in 100,000, the corresponding ratio being at the time in France, 39; in Austria, 33; in Germany and Norway, 32; in Spain, 31; in Hungary, 24; in Portugal, 18; in Russia, 16; and in Sweden, 16. The proportion of medical practitioners to area shows the overcrowding of the profession in Belgium in an even more striking manner. There was in that country 1 doctor to every 13 square kilometres, the corresponding figures being for France, 1 to 57; for Germany, 1 to 40; for Austria, 1 to 41; for Hungary, 1 to 87; for Spain, 1 to 96; for Portugal, 1 to 114; for Sweden, 1 to 774; and for Norway, 1 to 538. At the present time there are in Belgium 50 doctors to every 100,000 inhabitants. The rate of increase is shown by the fact that while in 1885 the total number of medical practitioners was 2,250, it had risen to 2,545 in 1889, being an increase of thirteen per cent. in four years.

Dr. John H. Rauch, the active and efficient Secretary of the Illinois State Board of Health, since its organization in 1877, has resigned this position. Dr. Rauch has been a most active worker in the department of sanitary science, and has rendered invaluable service to the cause of medical education and public sanitation. It has been largely through his work that the standard of medical education throughout the country has been elevated to its present position, for the requirements of the Illinois State Board of Health have been largely instrumental in developing a more thorough course of instruction upon the part of medical colleges.

Discovery of the Sex of the Fœtus During Pregnancy.—Dr. R. Ross, of Belfast, writes to the *British Medical Journal*: "For some years I have been able in many cases to forecast the sex of the child before birth from the position in which the mother tells me she feels most distinctly the fœtal movements. Most women can, but some cannot, differentiate the locality. In those who can I find the following rule applies with wonderful accuracy: If the mother describes the fœtal movements as felt chiefly and most distinctly on the left side I confidently predict a male birth; if on the right, I as surely determine the sex to be female." Twelve successful guesses are cited in support of this view.

A New Cure for Typhoid Fever.—Melbourne, Australia, has been having a sensation in the shape of a new cure for typhoid fever (*British Medical Journal*). It is stated that during an operation for hydatids the fetid odor was instantaneously removed by the accidental wounding of the chyle-duct, and so allowing the chyle to reach the cause of the offensive smell. The conclusion arrived at was that the chyle was a powerful disinfectant, and some of the fluid was collected and forwarded for analysis to a gentleman with some knowledge of bacteriology who is engaged as a brewer's scientific expert. Over the brewery this gentleman has his laboratory, and here after some lapse of time the investigations were carried on. It was proved that the chyle submitted contained a yeast and that when placed in contact with typhoid germs, cultivated apart from the human body, it destroyed them. It was also ascertained that the cerevisia could be taken into the human body without any danger. It was then used clinically by its discoverer, who claimed that it not only cured typhoid as no other remedy could, but also severe forms of diphtheria. Its mode of administration consisted in giving the chyle mixed up with food frequently during the day. The curious and entertaining part of this affair now begins. The results, I must explain, were asserted to have been obtained by experiments at the Alfred Hospital. Immediately on the publication of the statements of cure by the surgeon interested, a special meeting of the staff of the hospital was called to discuss the supposed remedy, and after some discussion and examination of charts of the patients so treated, it was resolved as follows: "That this meeting of the honorary medical staff regrets that sensational statements should have been made in the daily papers in association with the name of the Alfred Hospital. That two members of the medical staff have made some trials of this supposed remedy, on the express condition that no premature publication should be made, but the results so far obtained have been negative."

Electrothanasia.—"Electrocution" is a horrible and hybrid word, a veritable etymological monster, and, though now much used, we trust it has not come to stay. Electrothanasia, a term suggested by Dr. Peterson, is correct, and the verb "electrothanate" might be constructed from it.

The Late Mr. W. H. Gladstone suffered from a brain tumor, and died from the effects of an exploratory operation.

Suicide of a Physician.—Dr. C. E. Sheppard, of London, who made a special practice of administering anæsthetics, committed suicide recently, on account of a death occurring from chloroform administered by him. No blame was attached to him as he was a careful and skilful man; but he was morbidly conscientious and sensitive and earlier in life had had a mild attack of melancholia.

A Medical Temperance Congress met at Prohibition Park, Staten Island, on July 15th and 16th, Dr. N. S. Davis, of Chicago, presiding. Dr. Davis delivered an opening address in which he treated of intemperance and its causes, and how to put a stop to it. Dr. William H. Porter, of New York, then read a paper on "The Physiological Relation of Alcohol to Food." The speaker said that the common practice of using vegetables to the exclusion of the required quantity of eggs, milk, and meat, was the chief factor in devitalizing the human race and stimulating a strong desire on the part of the system for the more quickly acting alcoholic compounds. The speaker's conclusions were that alcohol could be used with great advantage when the mental and physical powers had been

greatly overtaxed, and in cases of extreme exhaustion, as alcohol called into action the reserved forces of the system. Alcohol should be classed as a medical agent and not as a food stuff. Dr. T. D. Crothers read a paper on "Drunkenness a Disease; its Remedy by Scientific Means." He believed that drunkards should be quarantined and carefully treated until they got over the desire to drink. Dr. E. P. Thwing, of Brooklyn, read a paper on "Climatic Influences as Related to Inebriety," and argued that the climate of this country was altogether of too stimulating a nature, and that drinking was dangerous. Dr. John R. Anderson read a paper entitled "Is Alcohol a Food?" Dr. James Wood in his paper advocated the use of alcohol in certain diseases, but he was attacked by many of the delegates. Among those who took part in the discussion were Dr. J. N. Quimby, of Jersey City, Dr. C. H. Shephard, of Brooklyn, Dr. N. R. Bradner, of Philadelphia, and Dr. M. L. Holbrook. On the second day Mr. Axel Gustafson read a paper on "How to Deal with the Drunkard; with Reference to the New Massachusetts Laws, and New Hospital for Dipsomaniacs and Inebriates." He said that Massachusetts recognizes the fact that persons who drink to excess do so because they are diseased. The Massachusetts Hospital for Dipsomaniacs and Inebriates is now in process of erection at Foxborough, twenty miles from Boston. It will accommodate two hundred male patients, and will cost $150,000. It will be opened during the first half of the year 1892. The central feature of the new system in Massachusetts is intelligent discrimination based upon accurate information. Mrs. Lucy Hall, M.D., of Brooklyn, in giving an account of observations in the State Reformatory for Women at Sherburne, Mass., gave these statistics: Of 204 cases examined, 132 were admitted for drunkenness. More than one-half had formed habits of intemperance before they were twenty-one years old, and one-third between the ages of fifteen and twenty. The results of inebriety, Mrs. Hall said, are not confined to the individual, but transmissible to the offspring of the inebriate. Upon the theme, "What Means a Physician can take to Effectively help to Stay the Ravages of Intemperance," Dr. John Blackmer, of Springfield, Mass., said that the physician could use his influence best by not prescribing alcoholic stimulants. Many pharmacies, Dr. Blackmer asserted, were only "*éditions de luxe* of the corner gin-mill." He advised the use of text-books on hygiene in the public and private schools. An address by Dr. J. Henry Carver, of this city, on "Is Alcohol a Poison?" created a long discussion. "Indirectly, alcohol, taken in larger quantities than the system can properly appropriate, is unquestionably a poison," Dr. Carver said. "In such a case it will produce effects similar in many respects to other acknowledged toxic conditions. That which the system can properly appropriate must be to a great extent gauged by the physical conditions of the individual." The assertion of Dr. Carver, that under certain conditions alcohol can be taken with impunity, brought several gentlemen to their feet, who believed that as a duty in the matter of reform physicians should practise medicine without alcohol.

The Story of the "Fatal Patient."—The daily papers state that a woman visited the Manhattan Eye and Ear Infirmary for treatment about two years ago, that she was suffering from a nasal catarrh, that she was assigned to Dr. Johnston for treatment, and that Dr. Johnston died suddenly two days later. Six months after, the woman again visited the infirmary for treatment of the same disease and was placed in charge of Dr. Pond, who also died suddenly two days after. These singular incidents excited much comment among the staff of physicians, who would jokingly tell any new member of their body who happened to be assigned to the particular department of which Drs. Johnston and Pond had been in charge that he had better beware of this "fatal patient," that designation having been written for amusement against her name. About a month ago the woman appeared again, complaining greatly of her catarrh, but she remarked that she feared the doctors might have some hesitation in attending her case, as her previous visits had been followed by the deaths of the physicians who had taken charge of her case. Her surmise was wrong, for she was promptly attended to by Dr. Phillips, who was in charge, and who had been made acquainted with the grim joke about the "fatal patient," the woman being fully identified to him as the traditional patient. Dr. Phillips was found dead in his bed next morning, having died several hours previously, apparently from heart-failure. As a matter of fact, Dr. Johnston died March 20, 1888, of pneumonia, after a week's illness. Dr. Pond died suddenly of heart disease, April 3, 1889. Dr. Phillips is, we are happy to believe, still alive, having contributed an article to the MEDICAL RECORD of July 18th.

The Psorosperms, a class of organisms belonging to the protozoa, are said by Mr. Jonathan Hutchinson, Jr., and Mr. Bowlby, to be the cause of Paget's disease of the nipple, a disease which should therefore be treated by strong antiseptics rather than the knife.

Obituary.

JOHN LEDYARD VANDERVOORT, M.D.,

NEW YORK.

DR. JOHN LEDYARD VANDERVOORT, one of the oldest physicians in this city, died on July 18th, aged eighty-three. Old age was the cause of his death. He was the seventh son of the late Peter L. Vandervoort, and he had always lived in this city, having been born in a house on the grounds belonging to Trinity Church. After an academic education at Union Hall, Jamaica, L. I., and some preliminary study with Borland & Forest, of this city, he entered Columbia College, from which he was graduated in 1828. The same year he began the study of medicine in the office of the late Alexander H. Stephens.

In 1832 Dr. Vandervoort was admitted as an interne in the New York Hospital, and after the full period of service there he began the general practice of medicine. In 1837 he was appointed librarian of the New York Hospital Medical Library, and he held this position for more than fifty years. He was a member of the Society for the Relief of the Widows and Orphans of Medical Men, the Academy of Medicine, and the Physicians' Mutual Aid Association. Of the last named he was for many years a trustee.

Dr. Vandervoort retired from active professional duties twelve years ago, owing to continued ill health. He continued his duties as librarian, however, up to a recent date, and few figures were more familiar to the profession of New York.

Reviews and Notices of Books.

WOOD'S MEDICAL AND SURGICAL MONOGRAPHS FOR MAY. Contents: "Differentiation in Rheumatic Diseases" (so called), by HUGH LANE, L.R.C.P. "Mental Affections of Childhood and Youth," and other papers, by J. LANGDON DOWN, M.D. "Cure of the Morphia Habit," by OSCAR JENNINGS, M.D. "Notes on the Examination of the Sputum, Vomit, Fæces, and Urine," by SIDNEY COUPLAND, M.D. Illustrated. Pp. 260. New York: William Wood & Co., Lafayette Place.

THE articles in the May "Monographs," if possible, excel the high standard of this popular publication, both in interest and practical value. Dr. Jennings, in his excellent essay on the "Cure of the Morphia Habit," gives to the profession the most advanced thought of the age on the subject. He gradually substitutes for the morphia, heart tonics, as sparteine and nitro-glycerine. The details of his treatment, which is the most successful yet devised, is exceedingly interesting. Dr. Lane's article, based on the study of three thousand so-called rheumatic cases, is timely. His differentiation between rheumatoid arthritis and rheumatic arthritis should lead to better success in treatment. The remaining monographs are of equal interest.

ORIGIN, PURPOSE, AND DESTINY OF MAN; OR, PHILOSOPHY OF THE THREE ETHERS. By WILLIAM THORNTON. Pp. 100. Published by the Author.

THIS interesting little work is a continuation of the author's "Rationalism in Medicine," which received such a flattering reception when issued in 1885. Among other things the author apparently proves that the germ theory of disease is untenable, instituting instead the transmission theory of disease. His arguments are ingenious, charmingly written, and the book is one of great interest.

SURGICAL BACTERIOLOGY. By N. SENN, M.D., Ph.D., Professor of Surgery in Rush Medical College, and in the Chicago Polyclinic, etc. Second edition, thoroughly revised. Illustrated. Pp. 260. Philadelphia: Lea Brothers & Co.

THE second edition of Dr. Senn's work on surgical bacteriology needs little comment. It is the best work in the English language, and compares favorably with any in the German. He writes on the now recognized basis that all wound complications and most of the acute and chronic inflammatory lesions which come under the treatment of the surgeon are caused by micro-organisms. A great deal of Dr. Senn's work is based on original investigation, but that he has carefully considered other men's views is evidenced by the fact that references are made to about three hundred authors. The new edition is a great improvement on the old, which, by the way, was completely exhausted in less than two years. New facts illustrative of the relations of pathogenic micro-organisms to the various surgical lesions, and eight new illustrations have been added.

ŒUVRES COMPLÈTES DE J. M. CHARCOT. Vol. IX. Lecrosnier et Babé, aux Bureaux du Progrès Médical. Pp. 540. Paris, 1890.

THIS, the ninth volume of a most interesting publication, is devoted largely to the contributions which Charcot has made to such subjects as cerebral hemorrhage and softening, metallotherapy and hypnotism, and electrotherapy. As the accomplished editor, Dr. Bourneville, observes, these papers are not of equal value; still, all are interesting and some must undoubtedly be regarded as permanent acquisitions to medical science. The chapter on metallotherapy, while suggestive, embodies certain conclusions with which many medical men are liable to disagree.

JAHRBÜCHER DER HAMBURGISHEN STAATS-KRANKENANSTALTEN. Edited by DR. ALFRED KAST. Pp. 484. Leipzig: Verlag von F. C. W. Vogel.

THIS really splendid volume represents the first annual report of the Hamburg State Hospital, and more especially of the Hamburg General Hospital.

When it is borne in mind that forty thousand patients receive treatment in this institution every year, it is self-evident that a report upon material of such magnitude must be endowed with something far greater than a mere ephemeral interest.

In truth, in looking through this ample "Report" we are impressed by the enormous amount of labor which has been expended in its preparation, by the conscientious attention to the statistical side of the subject, and by the truly scientific spirit displayed on all sides. Great praise is due the various members of the staff for their interesting contributions to both the surgical and medical parts of the report.

Finally, numbers of splendid colored plates and woodcuts interspersed in the text serve to classify the various pathological questions involved.

If succeeding volumes are at all comparable with this one, the "Hamburg Hospital Report" cannot fail to maintain a leading position among this class of useful literature.

JAHRESBERICHTE ÜBER DIE FORTSCHRITTE DER ANATOMIE UND PHYSIOLOGIE. Issued by DR. L. HERMANCE and DR. G. SCHWALBE. In two volumes, pp. 512 and 694. Leipzig: Verlag von F. C. W. Vogel. 1890.

LIKE the seventeen volumes which have preceded it, this report of the anatomical and physiological literature of 1889 is replete with matters of interest to those engaged in the special study of these theoretic branches of medicine.

It is quite impossible in a review of this kind to even enumerate the many interesting points embodied in this standard work; we must, therefore, refer the reader to its instructive pages, which will be found to contain the most recent contributions to anatomy and physiology.

BIBLIOGRAPHIE FRANÇAISE DE L'ART DENTAIRE. By DR. TH. DAVID, Surgeon-Dentist to the Paris Hospitals, etc. Pp. 307. Paris: Felix Alcan. 1889.

AS its name implies, the volume before us is a bibliography of that portion of dental literature which has been published in the French language.

Dr. David has rendered an important service in preparing this work not only to his *confrères* in France but also to dentists in other countries who have occasion to consult the periodic literature of their chosen specialty.

A glance at its pages will also serve to show how really considerable are the French contributions to the art of dentistry.

HOUSEHOLD HYGIENE. By MARY TAYLOR BISSELL, M.D., etc. New York: Z. D. C. Hodges.

THIS is an excellent little monograph, embodying many suggestions of value in connection with the sanitary regulation of the house as well as of the individual. Women, and especially mothers, should derive many useful hints from its perusal.

LA GRIPPE AND ITS TREATMENT. For General Readers. By CYRUS EDSON, M.D. New York: D. Appleton & Co.

THIS is the title of a little pamphlet, which is a revision of an article by the same author published in the *North American Review* for February, 1890. It gives a brief history of the disease as far back as it may be traced, and mentions the various names which it has received. It is an edifying essay of forty-six pages, and noteworthy as containing sensible advice in regard to therapeutic as well as hygienic treatment. Mention is made of the epi-

demic of 1557, where, in a small town near Madrid, "the treatment as first practised was bloodletting and purging," and where "two thousand persons, all of whom were bled, died." The references to antipyrine, which has had such extensive use, deserve attention by those practitioners who are so fond of supplanting the powers of nature, as also the remark that "if nature is not too seriously embarrassed by misdirected efforts, the disease usually has a short course." It may be remarked here that great mischief is done in the treatment of most diseases by those who seem to regard febrile symptoms as the principal objects of attack, not perceiving that all through the history of medicine those who have advanced the knowledge of the art have advocated assisting instead of combating curative symptoms.

Dr. Edson regards the grip as presenting two distinct forms, the febricular and the catarrhal. He pays his respects to the Chicago striped microbe, which, he says, "is unique, and must be regarded as a wonderful bug."

FEVER: ITS PATHOLOGY AND TREATMENT BY ANTIPYRETICS. By HOBART AMORY HARE, M.D., etc. Pp. 166. Philadelphia: F. A. Davis. 1891.

THIS essay, published in 1890 under the title "The Uses and Values of Antipyretics," received the Boylston (Harvard) prize for that year. It is a study upon the effects of antipyrine, antifebrine, thallin, phenacetin, salicylic acid, and cold bathing. An elaborate series of experimental tables of thermal results accompanies the text, and, as well, a series of sphygmograms showing the effect of the various drugs on arterial pressure. The writer classes antipyrine as the foremost antipyretic at our disposal, with antifebrin second, and phenacetin third. He further adds, "for wide-spread application to be put in the hands of the inexperienced, to be efficacious and yet quite harmless, cold sponging is the antipyretic remedy *par excellence;* but even this must be used carefully and with intelligent ideas of its objects and results." Anyone using the remedies experimented upon (and that includes all physicians) can read this essay with profit. As for the author, it only adds another laurel to his already enviable reputation.

MEDICAL SYMBOLISM. By THOMAS S. SOZINSKEY, M.D. Pp. 171. Philadelphia: F. A. Davis. 1891.

THIS is a collection of historical studies in the arts of healing and hygiene. Commencing with the meaning of symbols in general, the author has written of Æsculapius, Apollo, Hygeia, medical talismans and amulets, pharmacists, symbols, the pentacle, etc. While not bearing directly upon the daily work of the physician, it contains many facts of interest to him.

MATERIA MEDICA AND THERAPEUTICS. By JOHN V. SHOEMAKER, M.D., etc. Vol. II. 8vo, pp. 1004. Philadelphia: F. A. Davis. 1891.

THE delay in the appearance of the concluding volume of the author's work has been due to his desire to bring it down to the latest date, and to decide on the individual facts which should be given concerning each remedy. He has introduced brief considerations of many substances not in general or frequent use by the profession. Koch's tuberculin is not overlooked in this list. He adopts the name "tuberculinum," and gives the dose as $\frac{1}{64}$ gr. hypodermatically, "cautiously increased." He quotes from the report of Professor Laplace quite freely, but is very cautious in his own personal statements. He says "up to the present time no well-authenticated case of marked tubercular disease of the lungs or joints has been cured and it (the lymph) is now only thought to be of avail in incipient cases of phthisis which we know are amenable usually to hygienic treatment without hypodermatic injection. Cases of lupus which have been thought cured have subsequently returned with the disease as intractable as ever." The non-official list of drugs includes jequirity, all the new antipyretics and hypnotics, heart stimulants, aristol, cheken, and many others, some of which we frankly confess, we never heard of. The value of the book lies in the fact that it contains all that is authentic and trustworthy about the host of new remedies which have deluged us in the last five years. Some of them will be short-lived, others are valuable additions to our means of making sick people more comfortable and increasing their chances of recovery. The pages are remarkably free from useless information. The author has done well in following the alphabetical order.

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, May 1, 1891.

GEORGE L. PEABODY, M.D., PRESIDENT, IN THE CHAIR.

Pyocyanine in Epithelioma of the Cheek.—DR. R. F. WEIR presented a man whom he had treated for epithelioma of the cheek by injections of pyocyanine, with negative results.

Gastrostomy for Impassable Stricture of the Cardiac End of the Œsophagus.—DR. R. F. WEIR presented the patient and related the history of the case (see p. 88.)

Diagnosis of Intra-cranial Hemorrhage and Acute Softening.—DR. C. L. DANA then read a paper with this title (see p. 91).

DR. ANDREW H. SMITH inquired of Dr. Dana whether galvanism applied to the neck, with the view of producing contraction of the vessels, had been tried in cerebral hemorrhage.

DR. DANA replied that he did not know. He should doubt whether galvanism would have any effect in that direction when applied to the neck, unless the current were very strong, strong enough in fact to cause unconsciousness. He had in his own person passed a current produced by fifty cells through his head, one pole on the forehead, one on the back of the neck, without marked effect.

DR. SMITH thought that if one pole had been applied to the angle of the jaw he would have got a very decided effect.

Rigidity.—DR. BEVERLEY ROBINSON asked Dr. Dana whether secondary rigidity of the lower and upper extremity, and after a week or so tendency to mental excitement, would be of aid in differentiating between hemorrhage and embolism.

DR. DANA thought that late rigidity was not of much value in differential diagnosis. He thought it depended rather upon the amount and location of the lesion than upon its character. There was believed to be more mental disturbance after acute softening.

DR. ROBINSON said a specialist had expressed to him in conversation the view that rigidity and mental disturbance spoke rather for embolism as against hemorrhage. He then asked Dr. Dana whether bromide of sodium might not be useful in cerebral hemorrhage by tendency to close the vessels and by its action on the heart.

DR. DANA replied that he had had no experience with bromide of sodium. He doubted whether it would be of any particular value. He said that Dr. Julius Althaus claimed very striking results from injection of large doses of the fluid extract of ergot, but his experience seemed to stand alone.

Frequency of Cortical Hemorrhages at Bellevue Autopsies.—DR. HERMAN M. BIGGS said he had been impressed by the frequency with which cerebral hemorrhage, meningeal in particular, was found at autopsies on persons dying in Bellevue cells. Many of them resulted from traumatism, and a good many from pachymeningitis hæmorrhagica. Many of them, apparently, would have been amenable to surgical procedures. That day an au-

topsy was held in a case in which there was found a large cortical hemorrhage on the left side, due apparently to traumatism on the right side, without fracture of the skull and with very slight laceration of the brain. He had seen as many as three such cases in a week from Bellevue Hospital cells. Nearly all the patients had been admitted for alcoholism, and a large proportion treated for that condition until death occurred.

The Policeman's Club.—THE PRESIDENT said he had seen a great many cases like those Dr. Biggs had described, with which he believed the policeman's club had had much to do. In many instances the men were, doubtless, alcoholic when arrested, more or less rebellious, were hit by the policeman's club, and being found more or less "sleepy" next morning, were taken to the hospital, there were supposed to be alcoholic, and died. He had repeatedly found extensive cortical hemorrhage without any fracture whatever to show that there had been a blow upon the other side.

DR. BIGGS added, in a large proportion of cases the laceration of the brain was very insignificant.

THE PRESIDENT said, very insignificant, but the hemorrhage was very large.

DR. FRANCIS DELAFIELD thought the cortex was really more changed in these cases than would appear from simply looking at it. There was always some laceration evident, but if one went over the field carefully he would probably find a good deal of disintegration of tissue, at least if the man lived long enough for necrosis to take place, which was the direct result of the blow.

DR. BIGGS asked the last speaker whether he thought, if the pressure were removed by a surgical operation, a large proportion of the cases would recover.

DR. DELAFIELD expressed his doubts. The hemorrhage was not the whole trouble. The effect of the blow in producing necrosis of the cortex of the brain was quite as important as the hemorrhage or concussion. He thought it was a very curious fact that blows were likely to produce necrosis of tissue without, necessarily, laceration.

THE PRESIDENT asked, without laceration of blood-vessels?

DR. DELAFIELD replied, yes, without hemorrhage. One saw this in the liver, and also in the kidney.

DR. WEIR fully agreed with Dr. Dana that something should be done surgically in traumatic cerebral hemorrhage, and said that success often attended such interference. In other forms of supposed cerebral hemorrhage, however, he felt more doubtful, although there had been a few cases reported in which hemiplegia or aphasia had been relieved. In a case which he operated upon without success, the history being obscure, Dr. Dana suggested that it might be an embolism instead of a hemorrhage, and later the autopsy proved that it was.

DR. DELAFIELD said, with regard to traumatic hemorrhages, that there was a great deal of difference, he thought, between cases in which the hemorrhage was immediately beneath the seat of the injury and those in which it was on the opposite side of the brain. Cases in which the hemorrhage was immediately beneath the seat of the injury were unquestionably benefited by an operation, but those in which the hemorrhage was on the opposite side were not so likely to be benefited.

DR. WEIR asked whether they would not be benefited if the seat of the lesion was known and could be reached.

DR. DELAFIELD thought not. He thought that in such cases the thing of consequence was the lesion of the brain. He would lay a good deal more stress than Dr. Dana seemed to do on rigidity. He thought that rigidity of the muscles coming on later was a great deal more common in embolism than in hemorrhage.

THE PRESIDENT asked if the rigidity was not due to secondary degeneration, which took place in both cases.

DR. DELAFIELD replied that theoretically this was true, but that clinically he had noticed rigidity oftener in embolism.

Valvular Disease.—THE PRESIDENT thought that the value of valvular heart disease in making the diagnosis of embolism had been overestimated. He thought that embolism was pretty common without valvular disease. Of course the presence of a heart-murmur would tend to confirm the supposition that the case was one of embolism, but its absence would not necessarily favor hemorrhage. He had been rather sceptical with regard to the efficacy of drugs in these cases. He thought that if the arterial tension was great, they should be used as they should be in other cases under like conditions; but to give aconitia, or nitroglycerin, or other drugs simply because of the hemorrhage was, he thought, useless.

DR. DANA thought the point made by Dr. Peabody was a good one. He had not meant that aconitia should necessarily be given in all cases. Replying to his interrogatory as to the youngest patient in his list, he said it was a case of embolism in a boy of nine, the diagnosis being made by Dr. Janeway.

THE PRESIDENT said he had had a very interesting case some time ago, one of very extensive ventricular hemorrhage with rupture through the base of the brain, in a boy aged nineteen years, who had been found comatose at half-past three in the morning. The father was absolute sure that he was well two hours before. The hemorrhage had apparently come on while he was asleep. He died before daylight, and the autopsy revealed very general arterial sclerosis, a congenitally small heart, and left ventricular hypertrophy.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, May 21, 1891.

ALFRED L. LOOMIS, M.D., PRESIDENT, IN THE CHAIR.

Extra Assessment.—On motion of the Secretary, DR. A. M. JACOBUS, the recommendation of the Council to assess resident fellows ten dollars each to meet the deficiency for the current expenses, was unanimously adopted.

Photograph of Dr. Agnew.—The Academy accepted, with thanks to the donors, a steel engraving from a photograph of Dr. C. R. Agnew.

Why Syphilis is not Aborted by Early Destruction or Excision of Its Initial Lesion.—DR. ROBERT W. TAYLOR read this paper (see p. 1).

Some Suggestions for Deep Medication in Posterior Urethral Catarrh.—DR. E. L. KEYES read the paper (see p. 85).

The first paper was not open for discussion, but DR. A. JACOBI ventured to ask the author a question. Many authorities claimed that the use of iodide of potassium or mercury should not be resorted to until the secondary symptoms made their appearance. Dr. Taylor had demonstrated the fact this evening that constitutional syphilis existed as soon as, and even before, the initial lesion became manifest. This had always been the speaker's belief, and it demonstrated clearly why in the past his cauterization of the initial lesion for the abortion of syphilis had proven useless. But he thought it also showed that specific treatment should not be postponed until the eruption made its appearance. He asked Dr. Taylor if this was not a legitimate conclusion to be drawn from his paper.

DR. TAYLOR replied that the clinical experience of many eminent men, and his own, went to show that in practice patients got along better who did not receive the iodide or mercurial treatment until the secondary eruption had made its appearance. It was very desirable to obtain the moral effect of the eruption appearing at the regular period, in order to secure submission to thorough and necessarily long-continued treatment.

DR. JACOBI was not convinced. He felt more interest in the patient's future physical welfare based on early

treatment, than hope of influencing morals which were already rather shaky.

More than One Method of Treatment.—Dr. S. Alexander said that at present much attention was being given the subject of gleet, especially among genito-urinary surgeons, and considering the danger of going to extremes in a single method of treatment, he thought we could not have too many valuable papers like the one presented this evening. Touching on some of the points brought out, he expressed the view that gleet could not be considered one of the little things of life, in one sense. Those who had listened to a paper by Dr. Brewer during the winter, and the discussion thereon, would remember the fact which was then demonstrated, that the gonococcus might harbor in the urethra and be awakened to activity even after the discharge had nearly disappeared. One should, therefore, forbid intercourse as long as the gonococcus was present. The methods which the author had described for differentiating between a urethritis in the anterior and posterior urethra, had been practised by him with much satisfaction for a number of years. He had used nitrate of silver and sulphate of copper, and could speak favorably of them, but he was surprised that the author had been able to inject such a large amount of the solution. He thought he had on several occasions caused increased discharge by ten or fifteen minims of even a mild solution. The bladder would not stand a very strong solution of nitrate of silver; four grains to the ounce would cause a good deal of pain.

The Endoscope.—He thought that, as an aid in diagnosis, the endoscope should be used. It gave him a great deal more confidence in the treatment of the disease, and enabled him to judge better of the strength of solution which should be employed. Internal treatment was of considerable importance; the urine should be kept as bland as possible, not by giving an excess of alkalies, but by diluents.

Gleet not a Trifle.—Dr. L. Bolton Bangs expressed his interest in the paper. Gleet could not, in his opinion, be considered one of the little things of life. It was the cause of much mental suffering, if not of moral torment, and to its cure the physician might well devote his time and highest degree of skill. He thought more attention might be given the pathology of the affection, which varied somewhat according to its location. In this direction the endoscope was of considerable value. It rendered the diagnosis more positive, and added safety and rapidity to the treatment. Regarding the application, he had come to rely principally upon solutions of nitrate of silver in varying strength. He did not think that in using this agent it was sufficient to simply inject; it should be placed upon the diseased spot. In some very persistent cases, having determined the location of the urethritis to be in the bulbous urethra, he had injected ten or fifteen minims of a solution of nitrate of silver, one or two grains to the ounce, held it there, kneading the parts so as to drive the solution into the follicles, which seemed to be in those cases the hiding-place of the disease.

In tubercular cases, to which allusion had been made in the paper, he had found instrumentation and solutions of nitrate of silver likely to aggravate the discharge, but a solution of iodoform had proven beneficial. He agreed with what had been said against unnecessary use of instruments. It should be borne in mind that the penis was not made to put instruments into, and should be thus inflicted only when necessary. Still, there were cases of strictures of even large calibre in which it was humanitarian to overcome them.

Nitrate of Silver in Gonorrhœal Cystitis.—Dr. G. E. Brewer had first made use of Dr. Keyes' modification of the Ulzman syringe in injecting the deep urethra, some years ago, at Roosevelt Hospital, and had found its use result in the cure of a number of cases where treatment previously directed to the anterior urethra had failed. He had met with some cases of gonorrhœal cystitis, with bloody urine and painful urination about every five minutes, which he had relieved quickly, and ultimately cured, by injection of a solution of nitrate of silver, five grains to the ounce, into the deep urethra, some passing into the bladder. He had cured cases of granular condition at the neck of the bladder by injections of nitrate of silver, when, but for this mode of treatment, cystotomy would probably have been proposed by some surgeon.

Dr. F. T. Brown thought the methods of diagnosis described by Dr. Keyes would usually do away with the necessity for specular examination, but he had found the latter practical in most cases even of deep urethritis, and a valuable means of making a more positive diagnosis. If only the bulb was to be examined, and parts anterior to it, he thought one should always make an ocular demonstration if no obstruction were in the way. He exhibited a mucoid thread, five or six inches long, which contained some gonococci, found in the urine of a man who had ceased to have any discharge; it had been coiled up in the posterior urethra, and showed the danger of such a patient spreading disease by intercourse. He also exhibited two instruments which he had devised, one for application of medicinal substances in ointments.

Dr. F. R. Sturgis had come to make applications directly to the diseased spot, instead of by general injection. Nitrate of silver stood first, sulphate of zinc was useful, and he had applied it successfully rubbed up in vaseline, and also in cold cream. There were some cases in which the discharge depended upon the constitutional condition, as anæmia, etc., and a sea voyage or change of climate was necessary.

Credit to Ulzman.—Dr. R. W. Taylor appreciated the diagnostic value of the methods mentioned in the paper, and the usefulness of Keyes' syringe, but said that sometimes injury resulted from this, especially in unskilled hands. He had been surprised that nothing had been said about Ulzman, who, he thought, had done more to relieve chronic urethral discharges than anyone else. There was no portion of the human economy which required more gentle treatment than the male urethra, and one should use caution in employing a stiff silver catheter, whether it was in the form of Ulzman's syringe or Keyes' modification. A small catheter with fifteen holes near the end was a valuable instrument in applying nitrate of silver solutions, the solution not to be strong, for he had seen ten drops to the ounce cause much pain. The nitrate of silver solution could be neutralized by following with a saline injection. He employed the classical injection of Ulzman many times a day.

Dr. Keyes closed the discussion. His chief criticism of the discussion was that it had gone beyond the scope of his paper. A large quantity of a strong solution of nitrate of silver should not be used. He rarely employed more than ten grains to the ounce, seldom that much.

ALUMNI ASSOCIATION OF THE WOMAN'S HOSPITAL.

Sixth Annual Meeting, held January 19, 1891.

Uterine Hemorrhage of Obscure Origin.—Dr. H. C. Coe read a paper with this title (see p. 94).

Dr. Wylie said that Dr. Coe referred in his paper to the use of the tampon and sponge-tent. He had supposed, to a young gynecologist at least, these things had become obsolete. He was satisfied that the use of a sponge-tent was a more dangerous practice than the performance of a laparotomy, and the tampon bears a very close relationship to it. He spoke of the tampon in this connection because he had been called in quite a number of cases during the last few weeks where the tampon had been put in when the hemorrhage had been simply due to an acute inflammation of the tubes and ovaries.

Dr. D. Emmet would like to ask why Dr. Coe in his

paper persisted in calling the condition he finds in the uterus by the name of endometritis. He thought it was begging the question to use that term, for endometritis means an inflammation of the endometrium. He gives no symptom of a primary inflammatory process, but in each case shows some obstruction to the pelvic circulation from some mechanical cause, of which this congestion of the uterus and its effect would naturally be a symptom. He thought this use of the word endometritis a very mischievous one to employ, for it gave them an erroneous idea of its pathology and causation. He would like to direct Dr. Coe's attention to the use of this term and hear from him in reply.

Dr. Goffe said that he had had within the past few years a uterine hemorrhage due to a salpingitis. There was one case he could recall to mind he saw in consultation with Dr. Janvrin a number of times. She had an excessive hemorrhage, with the uterus somewhat enlarged, and had excessive menorrhagia and metrorrhagia, so that she had been curetted three times within the last eighteen months. At each curetting a large quantity of fungosity had been obtained which had been on two different occasions examined by two different pathologists, one of whom declared it to be a cancer, the other simply a fungosity. The point he wished to emphasize was this: Hemorrhages occur, fungosities reproduce themselves, and though the uterus has been curetted, still they re-occur.

The constitutional condition of the woman has improved as a result of this treatment and the doctor has not seen fit to resort to a radical operation. He has had a consultation with Dr. Polk, and they both agreed to defer any radical measure. Another case he saw last week in which he assisted at a laparotomy a year ago for tubal trouble. The appendages on both sides had been removed and through a drainage-tube which had been introduced she had an excessive flow of blood from the adhesions that had formed. Her pulse was good, the hemorrhage stopped spontaneously, and the patient made a good recovery. She had been curetted thoroughly for uterine hemorrhage and a very slight amount of fungosity had been obtained. Last week I saw her and was not able to discover any trouble within the uterus. During the past week she has been suffering from constant hemorrhage. Some of the ovarian tissue had been left in on both sides, which he thought to be the cause of it.

Another case came under his observation last Thursday which he had curetted five years ago. He had been unable to find any other cause for the hemorrhage but that of chronic endometritis. Dr. Emmett objected to the use of that term. He did not see why they should not have a chronic endometritis of low grade. The woman had been relieved of her trouble till the last few months, though she had been curetted five years ago. He curetted her again this morning, as the hemorrhage returned.

The walls of the uterus were very hard, being in that state Dr. Wylie calls fibroid degeneration. They were separated from each other and he could pass the sound in with considerable ease, proving that a cavity existed. So that they should look upon these cases as the type of a great variety of cases, for they certainly exist.

Dr. Van Ramdohr would like to ask Dr. Coe if he understood him to say that he performed the laparotomy at the request of the patient. If he understood him to say so, was there ever in his mind an indication when the patient might tell the doctor what to do.

Dr. Currier would like to ask if he understood Dr. Coe as saying in his paper that a very large number of hemorrhages from the uterus were due to hyperplasia of the mucous membrane with congestion. He thought if they studied the cases carefully they would find many in which the cause was obscure. They would find that the cause did exist there, yet he understood him to state in the early part of his paper that a large number of the hemorrhages which occur in cancerous diseases—even in cancerous disease of the vaginal portion of the cervix—were due more to a congestion of the mucous membrane than to a breaking down of the structure of the cervix itself. While such a condition as that may occur occasionally yet he thought the cases were too numerous, and the hemorrhage so obviously from the structure of the cervix itself, that they could conclude from absolute observation that such was the case. The tissues are so much infiltrated that the most careful examination with the speculum results in a breaking down, apparently, he would say, as soon as the instrument had been introduced. The statement that hemorrhage from the uterus was due entirely to a diseased condition of the tubes and ovaries was not absolutely susceptible of proof. They knew too well that there are numerous instances on record where hemorrhages do occur after removal of the tubes and ovaries. He might recall one case that came under his observation where removal of one diseased tube and ovary was followed by a profuse hemorrhage for a time, then came a recurrence, and curetting, which secured the same results as Dr. Coe speaks of in his paper. Removal of the hypertrophic mucous membrane relieved the trouble.

There was a point that had not been referred to which he thought deserved a passing mention in this connection, and that was the existence of the nerve Dr. Johnson described some few years ago as passing from the Fallopian tube and running into the uterus. This nerve, he (Dr. Johnson) maintained, was the factor which controlled hemorrhage in many cases in which the tubes and ovaries had been removed. If that theory be correct, and the nerve retained its function, then removal of the tubes and ovaries will not be followed by profuse hemorrhage, for the diseased condition of the endometrium remained. The cutting off of the nutrition of the uterus by ligation of the nutrient arteries would, he thought, be a more efficacious manner of controlling hemorrhage than by removal of the tubes and ovaries. He could recall one case in which that operation had been done, in which there was a fibroid degeneration of the uterus, and though the disease was not checked, showing evidently that the nutrition of the uterus had not been entirely cut off, yet there was no hemorrhage. The woman had been suffering from excessive hemorrhage before that time and there had been no recurrence since.

Dr. Boldt thought that Dr. Coe was unquestionably right in stating that there were uterine hemorrhages of obscure origin. We do have cases in which we may curette time and again, do a laparotomy and cauterize the endometrium, and still hemorrhages do occur. Dr. Currier had alluded to the fact of Dr. Johnson calling attention to a particular nerve which seems to control uterine hemorrhages, and he (Dr. Boldt) had sometimes looked upon the recurrence of uterine hemorrhages as being due to that cause. Though we might be able to control a large majority of hemorrhages by curetting and intra-uterine treatment, still there would remain a number of cases of hemorrhage which it was impossible to control save by a radical operation. If there was a recurrence of the uterine hemorrhage after the removal of the ovaries, then it seemed to him that the real cause of the hemorrhage was due to the fact that this nerve had not been ligated.

Dr. Wylie had touched upon the question of fibrous degeneration. Now, because Dr. Noeggerath, or any other man, had spoken of fibrous degeneration, that was no good reason why we should speak of it. We had no fibroid degeneration of the endometrium nor of the uterus. There are fibroids of the uterus, and if these fibroids are found in the endometrium we had fibroids and not fibrous degeneration. It has never been proved by anyone that there was a fibrous degeneration of the endometrium or uterus. Hemorrhages due to fibroids are never, as a rule, due to such small fibroids as these, to his knowledge. By the means of thorough curetting and intra-uterine medication we may be able to cure them. There were hemorrhages of perfectly obscure origin, and we did not know how to relieve these except by some radical form of operation.

Dr. McLean wished to say a few words in regard to an impression that appeared to have become current, and which he has had abundant evidence to contradict, and that was, that if a portion of the ovary be permitted to remain after laparotomy, it was believed to be a sufficient explanation for the hemorrhages which occurred. He did not consider that to be sound doctrine. He had performed laparotomies, and had been obliged to leave behind a portion of the ovary and noted the subsequent condition of the patient and there had been no hemorrhage. One patient he operated npon had not had a recurrence of the hemorrhage in seven years, normal or abnormal, since the operation.

Dr Coe, in closing the discussion, said that Dr. Wylie gave him a cold chill in alluding to sponge-tents, since he (Dr. Coe) had always been taught to regard them with aversion, and had never used one. He agreed with Dr. Wylie in his statement that laparotomy should not be done for dysmenorrhœa and hemorrhage alone.

Dr. Wylie had alluded to so-called fibroid degeneration of the Graafian bodies. This had been described under various names, and he had an idea that the new disease described by Dr. Mary Dixon Jones as malignant disease might be only a form of such degeneration. It is not known whether these peculiar corpora fibrosa are pathological or physiological. He agreed with Dr. Emmet that the term fungous endometritis was not a happy one, and he simply used it from analogy. He also objected to the use of the term chronic cellulitis. These are simply results. Hypertrophic rhinitis was the result of a former acute inflammation, so was chronic oöphoritis. It would be better to use the term fungoid degeneration of the endometrium, or simply hyperplasia, to express this condition. He used the term as suggested by the Germans, although it is not an inflammation but the result of prolonged congestion, and being such, he did not regard it as a primary condition. He would say, in reply to Dr. Van Ramdohr, that he should certainly not perform a laparotomy only at the request of the patient, but in the case of a patient with recognized pelvic disease who had suffered for a long time and had used palliative treatment with no good result, and had insisted upon an operation, he would feel justified in operating. In regard to Dr. Currier's criticism, he would say that he had distinctly excluded those exuberant malignant growths of the cervix in which the hemorrhage was clearly due to the breaking down of the vascular neoplasm, and had purposely confined himself to cases of commencing epithelioma and to those more advanced cases in which the cervix was indurated and non-vascular. One can make out by palpation if the cervix is indurated, and when the sound is passed up to the uterine cavity and the blood comes from the endometrium, you can say in such cases that the source of the hemorrhage is within the uterine cavity. His statement was based upon an examination of twenty cancerous uteri removed per vaginam.

He thought the hemorrhage was increased by this hyperplasia of the endometrium. If they had a cancer of the cervix, plus fungoid degeneration of the endometrium, they had a cause for profuse menorrhagia. He had been very much interested at the time Dr. Johnson made the statement in reference to his trophic nerve, but he did not see how one could tell when he had tied it. He thought this was largely a matter of conjecture, and in fact has not been proven. He was glad to hear Dr. McLean say that ovarian stroma may remain without giving rise to menstruation, as Dr. Myer, of St. Louis, had published a paper in which he makes the statement that hemorrhage after laparotomy was always due to the presence of this ovarian stroma. He did not think that statement to be true. There was something back of it all which has not been satisfactorily explained to his mind. The Germans had written on this subject, and one writer had shown conclusively that these hemorrhages may be due to perimetritic nodules. He had demonstrated it in those cases in which the uterus remained retroflexed, adherent and congested. When a retroflexed adherent uterus was left after removal of the adnexa the operation was imperfect.

Dr. Wylie said that the objections to the tupelo-tent were, to his mind, almost as great as to the sponge-tent. The objections to both the tent and tampon were that when they dam up the uterus, when it is diseased, they would bring on a uterine contraction, and if the blood was not permitted to escape through the mouth of the uterus it will make its way through the Fallopian tubes.

Operating Rooms at the Woman's Hospital.—Dr. LeRoy Brown read a paper describing the operating rooms, and the methods used for preparing patients for operation, at the Woman's Hospital (see p. 96).

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE NEW UNIVERSITY FOR LONDON—MR. BERRY'S LECTURES ON GOITRE AT THE ROYAL COLLEGE OF SURGEONS—THE BACILLUS OF LEPROSY.

London, July 4, 1891.

The university question in London is again to the front and, thanks to the promptitude with which the Privy Council have taken up the subject, a speedy settlement now seems probable. The scheme for reconstructing the present university having collapsed, the Privy Council are now considering the petition put forward by King's and University Colleges, for the creation of a new university to be styled "The Albert University, of London." The various bodies interested have appeared by counsel before the Privy Council. The medical schools support on the whole the petition of the two great teaching colleges. The Colleges of Physicians and Surgeons are willing to assist if they can have an important share of the management of the new university. Their legal representative tried very hard to show that, because they had some control over medical teaching, they were virtually teaching bodies, but this plea did not appear to find much favor with the special committee of the Privy Council. Lord Selborne, in fact, remarked: "You want to have practically, subject to a veto, the absolute control of the whole thing." The Society of Apothecaries also put in a plea for representation on similar grounds, and if it is granted to the two medical colleges it is difficult to see how the Society of Apothecaries can be excluded. Important opposition also came from the present university; while not opposing *in toto* the formation of a teaching university, it was urged that the words "of London" should be omitted from the title of the new body. Objection was also raised on the part of the present university to a proposition to allow reciprocity with other universities as to terms of residence, while as to medical degrees it was contended that the present university is already in such intimate relation with the medical schools of the metropolis that no new university is needed. As the "medical grievance" is one of the chief grounds on which the formation of a new university is urged, it is rather doubtful whether the Privy Councillors will consider the latter statement with the seriousness with which it was put forward. The Incorporated Law Society urged the formation of a Faculty of Law (in addition to those of arts, science, and medicine proposed by the promoters) and the introduction of a representative of the Incorporated Law Society. The further hearing is adjourned till July 13th, and it was suggested that in the meantime a consultation should take place between the various bodies concerned with a view of some agreement being arrived at.

In Mr. James Berry's recent lectures on "Goitre," at the Royal College of Surgeons, several points of practical importance were brought forward. In discussing parenchymatous goitres Mr. Berry did not speak very favorably

of the treatment by injections and pointed out the dangers of the method and the frequency with which failures occurred. Ligature of the thyroid arteries might be useful in some cases; the most suitable cases in which to employ it were undoubtedly the early cases of parenchymatous enlargement and the so called vascular variety. Division of the isthmus might sometimes relieve dyspnœa mechanically by allowing the two halves of the gland to separate, but it more often did so by draining the gland of its colloid secretion. In many cases of urgent dyspnœa division of the isthmus would not afford sufficient relief. Mr. Berry then discussed extirpation of a portion of the gland. Total extirpation, he said, was not now to be recommended. He then went on to speak of Mikulicz's resection and of the similar operation described by Professor Kocher. Both of these operations agreed in leaving intact that portion of the gland which is nearest to the recurrent nerve. Mr. Berry pointed out that the chief advantages of resection were: 1, That it enabled the operator to remove, when necessary, both lobes of a goitre, and yet leave behind sufficient gland tissue to prevent the supervention of cachexia strumipriva; 2, by leaving untouched the portion of gland covering the recurrent nerve it lessened the risk of injuring the latter. When compared with intraglandular enucleation it had the advantages that, 3, it avoided the severe hemorrhage that often occurred in the separation of the tumor from its capsule, and that, 4, the capsule of functionally useless gland tissue was not left in the wound. Thus the very deep sutures necessary to bring the sides of this capsule into contact to secure primary union might be avoided.

Discussing the operation of removing the thyroid gland, or portions of it, Mr. Berry said the risk of cachexia strumipriva was so great as to warrant us in laying down the law that complete extirpation of a goitrous thyroid gland should never be performed. Cachexia strumipriva had followed partial removal, but the cases in which this had happened had been exceedingly few in number, and in them the symptoms of the disease had usually been slight and temporary. Mr. Berry concluded that, in regard to this, it was immaterial which portion of the gland was left behind. Referring to the treatment of cachexia strumipriva by the transplantation of thyroid tissue into the patient, the lecturer referred to the favorable results obtained by Dr. Bircher, of Aarau. Professor Kocher had also had one very favorable case, the details of which were not yet published. Some similar operations had been performed in this country by Dr. W. J. Collins and Mr. Harry Fenwick, and although the results were not very encouraging, Mr. Berry thought that the information we had on the subject was sufficient to warrant us in giving the method a further trial.

The alleged successful artificial cultivation of the leprosy bacillus opens up a subject of the greatest interest. Until further observations have been made it is scarcely possible to assert positively that there is no fallacy underlying the experiments. It is, however, strongly in favor of the genuineness of the results that two independent workers should have succeeded in their cultivations. Culture experiments are now being carried on at King's College, with some lymph just received from India. Should these also prove successful, and it be found possible to inoculate animals with the disease, the way will have been opened out for a much more searching investigation of the nature of leprosy than has heretofore been found practicable.

They Thought They would Try It.—The inventor of a so-called hair regenerator once sent samples of his discovery, as the story goes, to all the members of the Paris Academy of Medicine. The physicians examined the stuff at one of their sessions and laughed long over the nonsensical preparation. But a few weeks later they whispered to one another, when they chanced to meet: "Do you know, I believe they are growing."

MEDICAL MATTERS IN BERLIN.

LYSOL THE NEW ANTISEPTIC—THE WAY TO PREVENT THE SPREAD OF INFECTIOUS DISEASES IN HOSPITALS—PROFESSOR LEYDEN'S HOBBY ON INFLUENZA—VIRCHOW'S APPROACHING CELEBRATION—PROFESSOR HENOCH HARD AT WORK AT SEVENTY.

[Dr. Louis Fischer, of New York, who is temporarily in Berlin for post-graduate studies in bacteriology and children's diseases, sends us the following interesting items regarding medical doings there.—Ed.].

Berlin, June 26, 1891.

The newest antiseptic in common use here is "lysol," which smells like creoline but is much stronger and makes a lather in a one-half per cent. solution without soap. Several cases of eczema and one case resembling erysipelas have already been developed in consequence of its employment. The nurses complain also of terrible headaches from it. Still in the Kaiserin Friedrich Kinder Hospital, and several other clinics, corrosive sublimate is discarded for the new antiseptic. Carbolic acid, however, is used as before.

I have charge of the Infectious Out-door Department in the hospital named. This is the largest and newest institution of its kind in Berlin, but is not entirely completed yet.

To show you how much we can learn from our German brethren regarding the care of infectious diseases I will have to write in detail.

I will state that, in the first place, there are six different buildings, the largest of which is reserved for out-door treatment, like a dispensary.

Here a young physician has one large room filled with new patients, who must enter here. He examines each and finding a case of diphtheritis, or let me say tonsillitis folliculosis, he immediately transfers the patient to me in room *D*, which stands for Diphtheria. I examine, and if it be a case of diphtheria telephone from my room into station *D*, and the child is retained for treatment.

The House Physician is not allowed to come into my building.

Now if another new case, say a case of gastro-enteritis (summer complaint), comes in, this same young admitting physician transfers it for treatment to the other side of the building where non-infectious cases are treated. I have four large rooms, one is labeled *D* (Diphtheria), the next *M* (Morbilli), another *S* (Scarlatina), and lastly *K* (Keichhusten, or Pertussis).

No mother can come into either of my four rooms unless she passes through an iron gate, which is known as the infectious barrier, and a child with either of the four named infectious diseases is not allowed to be attended in any other room excepting where the name of the disease is treated. Thus the mild out-door cases may be sent home without extra exposure, with rules given them for after-treatment, and the severe ones are retained. We have now seventeen cases of diphtheria, about twenty of scarlatina, and three of pertussis. I am having better results with bromoform here than my predecessor, and only because he used it too conservatively.

Dr. Baginsky allowed me to intubate a child last week in the scarlatina pavilion. It was at the last moment, and death resulted.

In Berlin intubation is entirely discarded and tracheotomy is preferred. They showed me the intubator and extubator and the different cannulas and all are the same as ours, but they try it and all abandon it. This I am told by Dr. Baginsky, to whom I came here with a letter from Dr. A. Jacobi, of New York. Dr. Baginsky is the editor of the *Archives of Pædiatrics*, with Professor Monti, of Vienna, and he also has written a text-book on "Children's Diseases," and is consequently a good authority to quote. He is now busily engaged with his new edition, I believe the seventh, of his text-book, which has lately been translated into French and Italian.

The greatest excitement prevails here in regard to the proposed celebration of Professor Virchow's seventieth birthday, on October 13th next—unlucky number, but lucky man.

At the celebration of his sixtieth birthday about eighty foreign delegates, some from South America, were here in the Rathhaus to the celebration. The next one, the seventieth birthday, will outdo everything Books are being dedicated and golden medals and memorials made, and so on.

About our friend Koch. He is living here in Berlin as everybody else, but nobody thinks of using tuberculin. It is spoken of with disgust, but all speak very highly of Professor Koch himself.

I was shown an article on "Lysol" in the current number of the *Zeitschrift für Hygiene*, edited by Professor Koch, which details the different methods of using lysol, and recommends it as superior to creolin.

It will also interest you to know that Professor Leyden has a hobby, *i.e.*, is almost a monomaniac on the subject of influenza. While I visited him he asked me to tell him all I knew about it, and asked me to write to him about the geographical beginning and ending of influenza in our country.

Dr. Boas, the editor of a text-book on "*Diagnostik der Magenkrankheiten*," has promised to write to the MEDICAL RECORD, once every month, all the latest news in medicine. As he is a collaborator and contributor to the *Berliner Klinische Wochenschrift*, *Deutsche Medicinische Wochenschrift*, and *Zeitschrift für Innere Medicin*, I think you have a valuable acquisition. Dr. Baginsky will also contribute about one or two original articles a year.

It is certainly an encouraging fact for such of our New York men who think of retiring early from work and practice to know that Professor Henoch at seventy years of age lectures three times weekly on his specialty of children's diseases at Charité, and still maintains his position as a leading authority. Thus far certainly he has not outlived his great usefulness.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 12, 1891, *to July* 18, 1891.

PAGE, CHARLES, Colonel and Surgeon. Heretofore assigned to duty in the Division of the Atlantic, will report to the Commanding General, Department of the East, for assignment to duty as Medical Director.

ALEXANDER, CHARLES T., Lieutenant-Colonel and Surgeon. To report for assignment to duty as Attending Surgeon, New York City.

MCCLELLAN, ELY, Major and Surgeon. Heretofore assigned to duty in the Division of the Missouri, will report to the Commanding General, Department of the Missouri, for assignment to duty as Attending Surgeon, Headquarters Department of the Missouri, and Examiner of Recruits at Chicago, Ill.

BROWN, PAUL R., Assistant Surgeon. Leave of absence extended one month.

COCHRAN, JOHN J., Assistant Surgeon. Leave of absence on surgeon's certificate of disability extended three months.

Official List of Changes in the Medical Corps of the United States Navy for the week ending July 18, 1891.

ATLEE, L. W., Passed Assistant Surgeon. Ordered to the Independence.

HOPE, JAMES SHIRLEY. Appointed an Assistant Surgeon, from July 10, 1891.

MARTIN, WILLIAM, Surgeon. Detached from duty at the Marine Rendezvous, San Francisco, Cal., and from special duty in that city, and granted leave until September 15th, and then to be placed on waiting orders.

CRAWFORD, M. H., Passed Assistant Surgeon. Detached from the Independence and ordered to duty at the Marine Rendevous, San Francisco, Cal., and to special duty at that city.

BOOKS RECEIVED.

INSOMNIA AND ITS THERAPEUTICS. By A. W. Macfarlane, M.D. 8vo, 294 pages. Price, $1.75. William Wood & Co., New York.

MEDICAL PUBLICATIONS, HARVARD MEDICAL SCHOOL, 1890.

A TEXT-BOOK OF PHYSIOLOGY. By M. Foster, M.D. Fifth edition, Revised. Part IV. 8vo, 217 pages, illustrated. Price, $1.90. Macmillan & Co., New York.

"JOE BROWN" ON ALCOHOLISM. 12mo, 105 pages. Price, 50 cents. E. Scott, New York.

EXPERIMENTAL INVESTIGATIONS BY THE STATE BOARD OF HEALTH OF MASSACHUSETTS, 1888-1890. Part II. of Report on Water-supply and Sewerage. 8vo, 910 pages, illustrated.

LES FONCTIONS DU CERVEAU. Par Jules Soury. 8vo, 464 pages. Publications du Progrès Médical, Paris.

MANUEL DE MÉDECINE ANTISEPTIQUE. Par le Dr. Dèclat. 12mo, 482 pages. O. Doin, Paris.

THE GENUINE WORKS OF HIPPOCRATES. Translated from the Greek by Francis Adams, LL.D. Royal octavo, two volumes in one: Vol. I., 400 pages; Vol. II., 368 pages, illustrated. Price, $5. William Wood & Co., New York.

MANUAL OF CHILDBED NURSING. By Charles Jewett, M.D. 12mo, 40 pages. Price, 50 cents. E. R. Pelton, New York.

THE POCKET MATERIA MEDICA AND THERAPEUTICS. By C. Henri Leonard, M.D. 12mo, 300 pages. Price, $1. Detroit, Mich.

PHILADELPHIA HOSPITAL REPORTS. Vol. I., 1890. Edited by Charles K. Mills, M.D. 8vo, 353 pages, illustrated. Philadelphia, Pa.

TRANSACTIONS OF THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION. Vol. III. Third session, 1890. 8vo, 444 pages.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 18, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	20	6
Scarlet fever	127	30
Cerebro-spinal meningitis	1	6
Measles	218	12
Diphtheria	80	23
Small-pox	0	0
Varicella	2	0
Pertussis	0	5
Erysipelas	0	0
Mumps	0	0
Rötheln	0	0

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Original Articles.

ON SYMMETRICAL GANGRENE.[1]

A CLINICAL STUDY, WITH REPORT OF A CASE.

BY ARNOLD STURMDORF, M.D.,

NEW YORK.

THE title "Symmetrical Gangrene" is utilized in the present article, not in Raynaud's sense, in which it has hitherto been accepted, namely, as conveying the conception of an autonomous individual disease—a unique pathological entity *sui generis*—but as a generic term embracing in its designation a multiplicity of pathological conditions, the results of various etiological factors, all, however, presenting certain characterizing features in common—hyperæmia, stasis, or absolute ischæmia of symmetrical parts of the body, usually involving the phalanges of the extremities, more rarely other symmetrically disposed parts, which may result in trophic changes or in gangrene accompanied by certain sensory or motor disturbances.

The elucidation of the pathogeneses of these conditions must be preceded by a careful and systematic separation of them one from the other.

It is only thus that it becomes evident, as we shall endeavor to show, that the many conditions hitherto confounded under the above title, owing to apparent superficial identity of objective manifestations, can, in the light of recent investigations, be recognized and readily differentiated as distinct affections.

The following case, which came under our personal observation, can serve in illustration of a type of this class of diseases:

Mrs. Johanna B——, German seamstress, aged fifty-five, thirty seven years in America, during all of which time she has resided in New York City.

The most searching subjective and objective investigation fails to reveal evidence of constitutional taint, hereditary or acquired, especially as appertaining to the presence of specific, nephritic, neurotic, rheumatic, malarial, or alcoholic tendencies.

Her maternal grandmother died at the advanced age of eighty years, although said to have suffered during life from gout.

Her parents, both of whom are dead—the father, as the result of "heart stroke," at the age of forty-five; the mother, of an unknown illness of four weeks' duration, at forty—had three children. One son, who died of pulmonary consumption, said to have been acquired as a result of excesses in *Baccho et venere*. A sister of our patient, who is living, a healthy mother of five equally healthy children. Lastly, our patient the youngest of the three, whose early history presents nothing of importance as bearing upon her present ailment.

She escaped the ordinary diseases of childhood, and barring an inflammatory eye-affection which developed during her second year, and recurred at intervals over a period of eleven years, she, though never a robust individual, enjoyed comparatively good health and comfortable surroundings.

In her fifteenth year the first molimen menstruale was succeeded by a condition characterized by a feeling of languor or general weakness, paroxysms of severe general headache, and the occurrence of attacks of syncope.

She continued in this state, under medical supervision and liberal administration of ferruginous medicaments, for a period of two years, then recovery gradually set in, resulting in a return of her menstrual periods, which had not recurred after their initial appearance.

The headaches disappeared entirely, but the attacks of syncope persisted to within one year ago.

These attacks would occur from three to thirteen times daily, and last from three to ten minutes. The slighest physical or mental excitation was capable of precipitating them, indeed they often occurred without manifest provocation.

At the age of twenty-one she was married.

In the thirty-four years of her married life she has never miscarried, and gave normal birth to three children, the last nineteen years ago; they are all living, in the enjoyment of excellent health.

As a possible factor in the causation of her symptoms it may be proper to mention in passing that she has never taken any medicine (ergot) during or subsequent to any of her confinements, nor has she partaken of rye-bread in quantities suggestive of a remote possibility of *ergotism*, a condition not unheard of among those of her class.

In her thirty-fifth year she gave birth to her last child, a son.. The labor and puerperium were uneventful and recovery complete. Excessive nursing of the robust child during a period of thirteen months resulted in a general deterioration of her health; she became very anæmic and weak, a condition which, in her opinion, resulted in the development of her present ailment. Be that as it may, it nevertheless tends to fix the first development of symptoms as having occurred in 1872, marking the disease as a progressive one of nineteen years' standing, which, as far as can be elucidated, developed in somewhat the following manner:

Without discernible cause, other than that mentioned as alleged by the patient, the integument and underlying tissues of both hands developed, within the space of a few hours, a condition characterized by pain, hyperæsthesia, coldness, rigidity, and violet livid cadaverous discoloration, most marked about the terminal phalanges; from thence gradually receding upward, to merge by imperceptible gradation into the normal condition of the structures above the wrist, which, to all appearances, remained uninvolved. A swelling of the affected parts was not observed. After two to three days this cyanosis of the affected members (Raynaud's "local asphyxia?") subsided in intensity, leaving a mottled condition of the integument covering the distal phalanges of both index-fingers, most intense of the right, resulting from the persistence of dark macules of various diameters, some representing mere dots, others of the size of a large pea.

Gradually coalescing, these spots formed slightly elevated patches of irregular contour and dimensions, dry, horny, and parchment-like to touch, separating after a variable period, with resulting ulcers, which, varying in depth, healed eventually by a dry, tedious process of cicatrization.

Our patient's condition, subsequent to this initial attack, manifested peculiar susceptibilities, both general and local; for in addition to spontaneous recurrences of the cycle of phenomena just detailed, sudden psychical

[1] Case presented at a meeting of the German Medico-Chirurgical Society of New York, December 1, 1890.

impressions, emotional excitation, violent unexpected contact of the fingers with resisting surfaces, in short, the most insignificant mental or physical disturbance, the cooling of the surface of the body or hands, such as would follow the opening of a window on a cold day or placing the hands into cool water, induced an attack of syncope accompanied by a general cyanotic hue of the whole body surface, which, gradually localizing itself in the hands, would then either disappear entirely, the process ending at this stage, or, becoming intensified, eventuate in a renewed destruction of portions of the fingers.

Thus in a period of nearly nineteen years have these attacks of paroxysmal mortification of the fingers and hands recurred innumerable times, at various intervals, and of varying intensity, more severe and prolonged during cold weather, compelling the patient to remain in one room of even temperature.

At times the derma only was involved, the process thus ending superficially; at others, the gangrene penetrated to the very bones of the phalanges, resulting in necrosis, producing indolent sinuses and fistulous tracts through which the dry black sequestra would gradually emerge. When joints were involved, they were totally destroyed.

Even the healing process proved a destructive one, inasmuch as it produced unnatural flexions and distortions of the affected parts, the result of subsequent cicatricial contractions.

Thus we find our patient in a truly lamentable state. Not a single phalanx has escaped the terrible marring of this disease; utterly useless, painful, crippled stumps, mere remnants of fingers upon distorted, shrivelled members, which, to-day, merely bear a resemblance to human hands.

She has wandered about, seeking advice from numberless physicians, been subjected to as many forms of treatment, yet nothing succeeded in checking the terrible malady or in ameliorating her sufferings.

On August 26, 1890, she first came under observation, when we noted the following:

Patient was a woman of small stature, delicate frame, and scanty panniculus adiposus. Marked arcus senilis, old nebulæ corneæ, pupillary reactions normal. Her face is peculiar, presenting the appearance vernacularly termed "hide-bound," the integument being smooth, glossy, thinned, and very tense, like a membrane tightly stretched over the bones, obliterating the natural lines and furrows essential to facial expression, and recalling the condition designated as "La masque sclerodermique." To the touch the epidermis is firm, dry, and almost immovable upon its underlying structures, making it impossible to pinch it into the smallest fold.

On the forehead are plainly visible the ramifications of enlarged and dilated subcutaneous veins; pressure over this region produces slight pitting. There is no atrophy of the facial muscles, nor any demonstrable alteration of their normal volitional or electro-motor status. Examination of the thoracic organs reveals the presence of slight emphysema senilis, otherwise there is nothing to indicate the slightest deviation from the normal. The heart, its valves, and the great vessels do not furnish evidence of disease. Respiration, 22 per minute; pulse, at the radials, 80, isochronous, and of normal calibre and resistance.

Examination of abdominal organs, as of the spinal cord and its reflexes, proved entirely negative. Urine, normal in quantity and appearance, specific gravity, 1.022, acid reaction; no sugar, albumin, casts, or other abnormal ingredients.

Each arm presents upon its upper outer aspect, at a point corresponding to the insertion of the deltoids, a ragged deep scar, penetrating to the bone, the result of suppurating issues artificially produced forty years ago as derivatives, intended to control the chronic inflammatory condition of the eyes mentioned above.

As to the condition of the hands at the time of examination, the accompanying cuts, copied from photographs taken from life by Mr. B. J. Falk, of New York—to whom, as well as to his brother, Mr. J. J. Falk, I would here express my deep sense of appreciation—will furnish such additional features as I may have omitted in my details.

There are, however, certain important features demanding special attention.

In the first place, an appearance which cannot be conveyed by a photographic plate is the peculiar condition of the skin covering the hands.

It is cold, smooth, glossy, thinned, and very tense, similar to, but more pronounced than, that on the face.

In this tense condition the integument stretches over the dorsal surface of the hands to the wrist, where it becomes roughened by numerous fine wrinkles, giving it a peculiar shrivelled appearance, which gradually relaxing from here upward, merges into the soft, lax, normal condition of the skin covering the forearm.

The color of these parts varies, according to temperature or the emotional state of the patient, from a deep cyanotic hue to a grayish white, the terminal phalanges never assuming a normal tint.

A careful study of the numerous solutions of continuity present at this time in their various stages made it evident

FIG. 1.

that these were the result of different ulcerative processes, some consecutive to others, all, however, the result of perverted circulation. Thus we have, involving corresponding parts of both thumbs and forefingers, the gangernous ulcers; the dry, shrivelled, mortified tissues have become separated, leaving a moist, yellow, slowly granulating, deep sore, with sloping irregular edges; the lesion in its symmetrical distribution being typical of the disease and well shown in the illustration.

The small round ulcers, seen on the dorsal aspect, over the metacarpo-phalangeal articulations, are the result of the extreme tension of the poorly nourished integument over the prominence presented by the phalangeal ends of the metacarpal bones.

The third variety of ulceration involves previously formed scars. It represents a slow disintegration of the newly formed contracting tissue, the result of perverted nutrition, and is found over the ends of the terminal phalanges. The nails, where present, are thickened, rugose, incurvated, scaly, and brittle. That of the left forefinger is missing, while the one on the second finger of the same hand is represented by a short, thick, narrow, horny stump, jutting backward from the centre of a scar. Hyperæsthesia and pain, although present in varying degrees at all times, become marked only during an attack. Barring these symptoms—which are entirely attributable to the existing tension and ulceration—there are no abnormal sensory manifestations, cutaneous or tactile. Motility of the affected parts may also be considered normal, it being hemmed only by mechanical factors, such as cicatricial contractions and anchylosis, or by hyperæsthesia and pain

on contact, all tending to produce a certain clumsiness in finer motions. Anchylosis is seen between the ungual and middle phalanges of nearly all the fingers. The left index is firmly anchylosed at right angles between its first and middle phalanx.

Careful observation of the patient during a period of nearly seven months does not enable us to add anything of material interest, except that the abnormal tension of the integument is less marked during the intervals between the attacks.

Neither the patient nor her relatives can inform us whether this peculiar condition of the skin antedated or developed subsequently to the gangrene. Thus we have detailed what our observation of the case has elucidated.

Recapitulating, we find a woman of comparatively good family history, previously healthy, although never robust, developed at the age of thirty-five, suddenly, without manifest cause, premonitory symptoms, or constitutional disturbance, a peculiar condition of the hands and fingers characterized by symmetrically located vascular obstruction, accompanied by hyperæsthesia and pain, without swelling. After a few days these phenomena either disappear as suddenly as they came, or, becoming intensified, terminate in circumscribed gangrene, again involving symmetrically disposed areas. For a period of nineteen years to the present time she suffered innumerable recurrences. The attacks vary in intensity and recur at intervals ranging from a few days to several weeks, being most frequent and severe during cold weather. The lesions vary from superficial involvement of the epidermis to the complete loss of a whole ungual phalanx.

Barring a disposition to attacks of syncope, on sudden or prolonged exposure to cold, no symptoms of a constitutional nature are demonstrable.

History.—In scanning the literature bearing upon our theme we find that isolated cases of idiopathic symmetrically disposed gangrene have been recorded as curiosities as early as the sixteenth century.

In the "Ephémérides des Curieux de la Nature," 1685, we find a short description of a case of this nature reported by Christ. Hertius, of Nassau. The "Collection Académique," for the year 1773, contains another example, observed by John and Bernard Schrader in the year 1629.

Boquet[1] mentions a case of three years' standing, in a girl, six years of age, involving the fingers and toes, resulting in total destruction of several ungual phalanges. Later, in the same journal (1830), Moulin reports a somewhat similar case. Joly[2] and Racle[3] describe similar cases, all cited in full in the monograph by M. Weiss.[4]

It were useless to reproduce here the records of these cases, for, barring their historical interest, they are utterly useless for statistical purposes, inasmuch as we look in vain for statements regarding the condition of the internal organs, blood-vessels, urine, and so forth; they are simply incomplete, dry reports, devoid of all *raisonnement*.

The disease was first studied with care by Maurice Raynaud, in his "Thèse de Paris," in 1862. He collected twenty-five cases which had been described in detail, or had been personally observed in the hospitals of Paris, and after an analysis of the symptoms defined the disease as "*a neurosis, characterized by an exaggeration of the excito-motor power of the cord presiding over the vaso-motor nerves.*" He interpreted the cyanotic stage as due to a condition of spasm of the vessels, and proposed the name "Asphyxie locale," to designate the peculiar appearance of the parts affected. He also distinguished the resulting gangrene as a form differing essentially from those previously recognized in that it was *not* dependent upon embolism or upon changes of an atheromatous nature in the coats of the vessels.

Attention having been thus directed to the condition, several cases had been reported prior to 1873, when Raynaud published a more complete article on the subject in the "Dictionnaire de Médecine et de Chirurgie," under the title "Gangréne symmétrique." In 1874 he recorded five new cases in the "Archives générales de Médecine," vol. i., pp. 5 and 189, in which, however, the dominant phase, the symmetrical gangrene, was not present, the cases presenting only the cyanotic stage.

Raynaud's deductions and hypothesis as to the nature of this disease, thus based upon an analysis of eight personally observed and twenty-two recorded cases, received universal acceptance, and the condition was then and there established as a definite nervous affection *sui generis*. The literature upon the subject that has accumulated since Raynaud's essay, although not voluminous, is nevertheless quite rich in publications of cases, together with more or less complete articles by observers in all parts of the world. Thus, in France, Hameau and Faure have contributed observations in addition to those of Raynaud.

German literature furnishes articles by Billroth, Ruecker, Fischer, Nedopil, Englisch, and Weiss.

Numerous are the contributions by Scandinavian authors, the most valuable and extensive being those of Schouböe, Weihe, Bjering, Brüniche, Estlander, Holm, Bull, and Nilsen.

American and English essays present, among others, the names of Weir Mitchell, Mills, A. McL. Hamilton, J. C. Warren, M. A. Starr, E. M. Moore, Southey, Finlayson, Fox, and Myers.

A critical review of the publications reveals the following:

Beginning with Raynaud, we find: Number of cases originally collected, 30; excluded by Raynaud as of *doubtful nature*, 6; cases presenting *no gangrene*, simply the stage of cyanosis, *hence not cases of symmetrical gangrene*, 13; *cases unavailable, owing to incomplete data* as to the condition of the heart, blood-vessels, urine, and so forth, 3; cases proven in later stages, or on autopsy, to present evidence of atheroma, thrombosis, or embolism, 5; total number to be excluded, 27. Thus we find that the impressive array of 30 cases gradually dwindles down to a possible 3. Of these 3 cases 2 escaped observation after a very short period, leaving a single case which Raynaud presents as typical. It is as follows:

A married woman, aged twenty-seven, menstruated regularly since her fourteenth year. In February, 1859, four months after her first confinement, she was seized by an attack of paræsthesia, followed by excruciating pain involving the fingers of both hands, whose tips, from looking "dead" at first, gradually merged into a condition of complete black. Now the tip of the nose fell victim to the same process, to be followed, after several weeks, by an involvement of several toes of both feet, as well as the integument of the nates.

At the beginning of April, of the same year, the volar surface of the distal phalanx of the involved fingers and toes, as well as the integument of the nates, presented a number of small superficial sloughs, while the dorsal aspect of the three middle toes showed the integument raised into blebs distended with sanguinolent serum, which, gradually dessicating, left a dry, hard, black scab to slough away.

While the gangrenous process was limited to the superficial layers of the epidermis of the fingers, involving a number of areas, of the size of a pin's head, it penetrated far and wide on the toes, mummifying them, so that by the beginning of June the formation of a line of demarcation was followed by amputation of the first four toes of both feet, resulting in a complete healing without recurrence in any part. Pulse, heart, urine, temperature, as well as all functions, remained normal throughout.

Patient had received one and one half gramme of ergotin four months previously, during her confinement.

The case thus epitomized was presented by Raynaud as one typical of the disease under consideration. In the light of the standard thus established, a careful review of

[1] Journal de Corvisart, xvi., p. 283. 1808.
[2] Arch. génér. de Méd., 3me sér., t. 10.
[3] Gazette méd. de Paris, 1859.
[4] Wiener Klinik, 1882.

the accumulated records makes it painfully evident that any attempt at a systematic arrangement or lucid presentation of characterizing and essential features, based upon an analysis of these recorded cases, must prove disastrous; for, barring the unity of the majority of reports upon *the* one dominant phase, *i.e.*, symmetrical gangrene, we find detailed the widest diversity of symptoms, together with the most incompatible and antagonistic conditions—examples of diseases other than that under consideration reported, with incomplete histories and superficial observations, all grouped into this one chimerical category, pervaded by the hypothetical doctrine propounded by Raynaud.

To support this assertion by facts, we will summarize from the literature, in a general way, the cardinal features as observed during the life of the patients, arranging them for comparison and brevity under their respective clinical headings. the information furnished by such few autopsy records as have been published receiving due consideration later.

Sensory Symptoms Recorded.—Pain of varying intensity and duration, generally severe, continuous in some, paroxysmal in others, often localized, sometimes general, affecting the integument only or extending to the muscles and bones; not limited to special nerves in some cases, while in others it follows the course of certain nerve-trunks and their ramifications, the accessible parts of such nerves ("Valleix's points") being sensitive or very painful on pressure.

Anæsthesia recorded in many cases, not mentioned in others, whenever noted it invariably resulted subsequent to the disappearance of pain or hyperæsthesia of the affected parts; thus in one of Raynaud's cases tactile sensibility in both feet was completely abolished, producing the gait and movements of ataxia.

Englisch recorded deterioration of sensibility to mechanical and faradic irritation in one case, while a second one manifested a blunted temperature perception, with complete absence of electro-cutaneous sensibility.

In the case recorded by Weiss, a temperature of + 30° R. was indicated by the patient as hardly lukewarm, while + 40° R. simply produced a sensation of agreeable warmth, differences in temperature ranging from 6° to 8° R. were not perceived.

Transmission recorded normal in some, perverted in others, not observed in many. Thus in Weiss's case the application of a faradic brush or the pricking with a needle produced an immediate appreciation of simple contact, while the characteristic qualitative perception of the nature of the irritant was delayed several seconds. This abnormal state of transmission has persisted in some, disappeared in others; wherever manifest, it developed subsequent to the hyperæsthetic or painful stage of the disease.

Paræsthesia and hyperæsthesia are usually recorded as among the initial symptoms, involving either circumscribed areas or spreading diffusely over the greater part of the affected region.

Motor, trophic, electro-motor, and volitional disturbances, manifested in the muscles, are also recorded in several cases. In both the cases reported by Englisch some of these phenomena were present in a marked degree. In one case the flexor and extensor brevis digitorum of the foot were decidedly atrophied and not responsive to electrical stimuli. In another case the same condition is noted as involving the interosseous muscles as well as the extensors of the forearm. It may be well to mention that in none of Raynaud's cases was this condition investigated.

Another pregnant example of this condition is furnished by Weiss's case, in which during a severe paroxysm there became manifest marked paresis bordering on paralysis, accompanied by rapidly increasing atrophy of the muscles comprising the thenar and hypothenar eminences and interossei of both hands. At the same time the various electro-motor responses became entirely suspended. Petit and Verneuil report complete paralysis of a whole arm in one of their cases.

Vaso-motor disturbances of various degrees are recorded in all cases, as well as symptoms pointing to an involvement of the sympathetic. Thus Raynaud, Schauböe, Bjering, Fischer, and Weiss noted vaso-motor phenomena in the form of circumscribed cyanosis involving the face and auricle, or these parts presented a flushed appearance, accompanied by increased temperature and hyperidrosis, with narrowing of the palpebral fissure, recession of the eyeball, ptosis, and myosis paralytica.

Facial hemiatrophy and aphasia, as well as arthropathies involving various and widely separated joints, are also reported by Weiss; while notwithstanding that Raynaud demands that the lumen of the blood-vessels be free, and their walls in a healthy condition, so that vascular disease, as a causal factor in the production of this affection may be positively excluded, it is not exceptional to find noted general atheromatosis (Verdelle, Bouveret), endocarditis, thrombosis, embolism, malarial infarction (Petit, Verneuil), glycosuria (Fox), nephritis (Debovet), hæmoglobinuria (Myers), acute infectious diseases and fevers (Moore).

Such is the symptom complex found associated with the hypothetical pathogenesis proposed as a basis for the condition under consideration. Can we, in the light of modern pathology, reconcile even a representative minority of the phenomena enumerated to our present conception of a purely functional disorder, *i.e.*, a vaso-motor neurosis? For it must be borne in mind that such is the position defended by Raynaud, who says: "I propose to demonstrate that there exists a variety of dry gangrene, affecting the extremities, which it is impossible to explain by a vascular obliteration—a variety characterized by a remarkable tendency to symmetry, so that it always affects similar parts of both upper or lower limbs, or of all four at the same time, and in some cases also the nose and ears, and I shall endeavor to prove that this kind of gangrene owns for its cause some error as to the innervation of the capillary vessels."[1]

In order to prove that a given condition represents an autonomous, distinct, and special disease, there must first be established the fact that its etiology, clinical history, and post-mortem appearances are invariably characteristic and essentially uniform. How are these desiderata, thus demanded, fulfilled in the present instance?

We have already shown that the cases presented by Raynaud as substantiating, in their leading features, his views of their pathogenesis, contain but a single one which possesses characteristic peculiarities sufficient to claim our attention; but even this frail support of his theories crumbles and fades from the field the moment it is subjected to critical scrutiny, for, like its companions, its ultimate fate is an unknown quantity, inasmuch as we look in vain for details concerning its subsequent developments or final termination.

The same shortcoming characterizes the observations published in the thirty years since Raynaud's original communication, for, excluding all such cases as do not properly belong to this category, nearly ninety-eight per cent. of the patients have eluded further observation.

This in some measure explains the presence of the erroneous and misleading statement in Weiss's monograph, that in seventy per cent. of the cases the attack occurred but a single time. Nor do the records of such few post-mortem examinations as have reached the light reveal a single feature leaning in support of Raynaud's deductions. Here we find everywhere positive anatomical lesions as follows: Wigglesworth, Pitres, Mountstein, Bowlby, Vallard, and Affleck report neuritis, marked and distinct, as the predominating lesion, while Goldschmidt, Ransom, and Barlow found general endarteritis.

Fox, in a supplementary report to a case previously reported as one of Raynaud's disease, says: "Joseph A——, died comatose, with diabetes, albuminuria, and general atheroma of the medium and larger arteries."

It will be claimed by those accepting Raynaud's prop-

[1] Jacoby, G. W.: Medical Journal, 1890.

ositions that functional disorders, as we interpret them to-day, can have no anatomico-pathological basis, and that the post-mortem evidences thus recorded must exclude these cases from the category of Raynaud's disease.

In answer, we would simply point to the nature, gravity, and diversity of the symptoms enumerated to make further argument in this direction superfluous.

As already indicated, the phenomena of symmetrical gangrene are presented by diverse and manifold conditions; nevertheless, gradually accumulating post-mortem evidence, in the light of recent advances in neuro- and angio-pathology, enable us to group all these conditions under two pathogenetic captions, as follows: 1, Symmetrical gangrene the result of changes in the nervous system; 2, symmetrical gangrene dependent upon disease of the circulatory apparatus.

But before entering upon this classification we must take cognizance of the possibility of ordinary gangrene attacking symmetrically disposed parts, and extending upward in such with a decidedly symmetrical movement. This may be due to the circumstance that both the affected parts have deposits in the arteries in very nearly the same degree—a fact of not uncommon occurrence—and that when gangrene commences in one, the constitutional depression it produces is the determining cause of gangrene in the other.

The causes of gangrene, however, are many, but in one way or another they mostly consist of obstruction or an arrest of the circulation. Still, it is not only the condition of the circulatory channels that determines its production; the cell has a life which may be destroyed by the presence of poisons in the nutrient fluids brought to it through otherwise patent and healthy vessels, producing the various forms of mortification as a result of disordered blood mixtures.

There are, however, certain abnormal conditions of the circulatory organs capable of producing gangrene, whose proper interpretation will go far toward the establishment of a sound pathology for the condition under consideration, transferring it from the position it now occupies among the obscure and little understood pathological curiosities to the rank of common and well-known complaints of every-day life.

It is owing to an inherent obscurity in clinical manifestations, rather than rarity of occurrence, that the conditions indicated have not received the full attention and study to which their importance entitles them.

Of these conditions there is one of undoubted existence, even though it does not yet rank among universally accepted entities, namely, cardiac asthenia without demonstrable lesion—the hearts we often find in marantic, neurotic individuals, those frail, sensitive, impressionable creatures who are neither sick nor well, only too often observed in city practice, dragging themselves through a few languishing years to an early grave. They are the thin, pale-faced, prematurely senile people, whose history of suffering begins with life itself and ends with death. How often do we observe this state in infancy; at times as a result of recognizable influences, and again entirely inexplicable.

An interesting study on "Chronic Endarteritis and its Clinical and Pathological Effects," by Dr. A. V. Meigs, published in the MEDICAL RECORD, No. 981, elucidates the subject in hand.

Among the cases cited by this author there is one of an infant between two and three weeks of age, that was deserted by its mother, "having already before this time lost weight and failed in general health and appearance. It was placed in an institution. In spite of all that could be done she soon presented the appearance of marasmus in a most typical manner, and at last, after having for a good while looked like a dried-up old woman, she died at five months of age." Autopsy revealed atheromatosis.

Fig. 2 is a reproduction of the state of the coronary artery.

Commenting upon these cases the author says: "This case may be thought to have been improperly placed in the group, as it was one of ordinary infantile wasting, or, if the name be not objectionable, marasmus, and it presented no unusual symptoms or clinical features; but it has so long seemed to me that there must be some parallelism between the disease under consideration in adults and some of the cases of infantile wasting, that upon finding the pathological lesion so typically developed, I added the case to the group, where, from the pathological stand-point at least, it justly belongs."

We have quoted somewhat at length, even at the risk of prolixity, because we are thus led directly to the consideration of vascular disease as a causative factor in the production of symmetrical gangrene.

Our knowledge regarding the etiology, pathological changes, and clinical manifestations in disease of the vascular walls is extremely vague and limited; and yet, as Meigs says, in speaking of chronic endarteritis, "it is as much of a disease by itself, a separate entity, as are typhoid fever and measles."

FIG. 2 (× 40 diameters).—The infant was aged five months. This is the left coronary artery of the heart just after its origin in the aorta. The irregularity of thickening is very evident, and it seems equally positive that the process of disease belongs to the lining of the vessel, for the muscular coat is distinctly visible outside of the area of disease, and does not appear to be very much altered, except that in some places the process seems to have invaded it, as well as having produced masses inside the vessel. The plicated membrane is represented by two fine lines with a white space between them, and is visible around the entire circuit except in the thickening, which is represented in the lower part of the picture, where the process of disease has involved the muscular layers to a great extent.

A careful study of this subject certainly reveals the fact that disease of the smaller vessels especially may exist in a degree sufficient to produce most pronounced deterioration of nutrition—even gangrene—without manifesting the symptom complex usually associated with atheromatosis. We have fallen into the habit of excluding disease of the arterial coats when superficial evidences of vascular induration with its accompanying symptoms of disturbed circulation, cardiac action, hemorrhages, variation and absence or irregularity of pulse, apoplexy, arcus senilis, etc., all occurring at a certain age, are not manifest.

Furthermore, the pathology of this condition, as universally accepted, is to the effect that the changes taking place primarily in the walls of the large arteries always spread in a direction toward the periphery.

The case already cited as recorded among others by Meigs, in addition to the following, will prove how erroneous is this belief, for there are cases of vascular disease that present none of these phenomena.

That a chronic endarteritis may start in the peripheral capillaries and gradually involve the whole arterial system, in a centripetal direction, was amply proven by Gull and Sutton.

Later observations by the same authorities on changes in the spinal cord and its vessels in "arterio-capillary fibrosis" tended to fortify their position, which was fiercely attacked by Johnson, Galabin, and others.

Let us see what these conclusions are, what subsequent observation has revealed in their support, and what light they shed upon the pathogenesis of symmetrical gangrene.

In their original communication Gull and Sutton describe an alteration of the arterioles which they call "arterio-capillary fibrosis," in which the external coat of the

arterioles is thickened and has a hyaline or fibroid or hyaline-fibroid appearance, while the capillaries connected with them have a hyaline-granular aspect. Only rarely are the intima and the muscular coat thickened, the latter being often atrophied; the lumen is usually narrowed.

They regard this arterio-capillary fibrosis as a disease which occasions atrophy of the surrounding tissues, and usually commences in the kidneys, though occasionally also in other organs.

The resulting contraction of the kidneys they look upon as only a concomitant phenomenon, the essential disease being the affection of the vessels; the clinical history varies according to the organs primarily and chiefly affected.

Thus it will be seen that, according to these observers, the so-called Bright's disease, with contracting kidney, is nothing more or less than a result of this vascular disease.

Meigs, in the article already referred to, differs from Gull and Sutton, inasmuch as he objects to the appellation fibrosis, claiming that it is not a fibrosis in the true sense of the word; but otherwise agreeing and supporting the views thus propounded.

In the same paper the following remarks, which are of interest here, are found: "It is a curious fact, and one worth recording, that in several different sorts of tissue removed by operation by surgeons as incurably diseased, I have found upon microscopic examination precisely the same endarterial inflammation and thickening, in some vessels so great as to entirely close their calibre, as found almost universally throughout the body in the cases of chronic endarteritis or chronic Bright's disease that have been described. These have been ovaries and Fallopian tubes, a vulvo-vaginal retention cyst, a cancerous uterus, and, I think, other tissues. . . ." Furthermore, recognizing the fact that this endarteritus may begin in any organ, he proposes a nomenclature accordingly, claiming that "such name should be modified to meet the needs of individual cases, as the pathological lesion attacks one, or another, or several organs, by saying—chronic pulmonary endarteritis, chronic cerebral endarteritis, chronic cardio-renal endarteritis, or other combinations as may be required to make the name accurately descriptive of the variations of one case from another."

Does it not naturally suggest itself at this stage that this condition may prevail in the regions presenting the manifestations of gangrene, or that there may be some hidden connection between the two.

To illustrate somewhat the clinical aspect of this part of our subject, we cannot do better than to quote a case published recently in a paper entitled "A Contribution to the Diagnosis of Raynaud's Disease," by Dr. G. W. Jacoby, to whom personally, as well as to whose essay, I am indebted for many quotations and points of importance in the literature of the subject, etc.

"A. B— -, male, aged forty-two, consulted me first on December 10, 1884, on account of a numbness and coldness of the fingers. Heretofore patient has always been well. He is a hard-working, energetic business man, with absolutely no neuropathic predisposition. His habits as regards alcohol and tobacco are good; he uses both, but moderately. No history of rheumatism, syphilis, or malaria. No history of exposure to cold or wet. He complains that for the last six weeks his fingers have not felt as they should; he thinks that he first noticed the trouble after washing in cold water, when his fingers felt stiff, as though partially frozen. That night he had intense pains in his fingers, and the following morning they appeared swollen and purple, with the exception of the middle finger of the left hand, which looked like dead. This condition has remained almost unchanged; during this time the pain has been continuous, but of greater severity at night, so that it is almost impossible for him to fall asleep. Examination of the patient showed that all the fingers of both hands, with the exception of the thumbs and the middle finger of the left hand, were purplish and cold. To the examiner they felt like ice. This coldness extended upward to above the first interphalangeal joint. The left medius was cold like the other fingers, but differed from them in color, being blanched and dead-like; the thumbs were normal. Sensation to touch and to the pricking of a pin was reduced. Pressure on the ends of the fingers was painful. The pulsation of the radial and ulnar arteries at the wrist was normal in every particular. The feet were cold, but otherwise normal. Heart normal. Urine contained neither sugar nor albumin. Here I would say that the urine was repeatedly examined after subsequent visits, and always with the same negative result.

"During the two weeks following his first visit to me it appeared as though the skin of the fingers gradually dried up, and then from the first interphalangeal joint downward (over the entire cold area) necrotic pieces of skin came off; this necrosis did not extend through the skin, and I can hardly call it a peeling of the skin, as it came off in circumscribed patches which varied in size.

"On the ends of the fingers, upon the palmar side, the necrosis extended through the skin, and black circumscribed sloughs, with a brownish area of discoloration extending around them, were formed. These sloughs varied in size from that of a pea to one which covered the entire phalanx of the left medius. The nails of the fingers showed purple discoloration around the matrix, with disseminated hemorrhagic spots all over. From this history and from the symptoms present at the time of examination I diagnosticated the case as one of Raynaud's disease.

"The patient, not improving under treatment, disappeared from observation until September of the same year. The condition was then as follows: All the sloughs have disappeared, leaving white scars. The entire third phalanx of the left medius is gone, the fingers are still cold and purplish, arteries of the forearm normal, no spontaneous pains, or upon pressure. I have no note as to whether the urine was examined then or not; the probabilities are that it was not, or some note would have been made.

"January 29, 1885.—The patient complains of headaches and various dyspeptic disturbances. He gives a history of several very slight transitory aphasic attacks. An examination of the urine resulted as follows: Light color; specific gravity, 1.010; albumin; kidney epithelia; casts, hyaline and granular. The further history of the case can be told in a few words; it was that of a chronic interstitial nephritis, without any unusual complications. In January, 1886, examination of the patient reveals hypertrophy of the left ventricle, high tension of the arteries, pulse incompressible. In February, 1888, an attack of apoplexy supervened, which resulted in coma and death in four hours."

In commenting upon this case Jacoby says: "This case is not by any means unique, for in 1880 Debove described a case of Raynaud's disease occurring in a patient suffering from a nephritis, and since then Dieulafoy and others have shown that symmetrical gangrene is often observed in conjunction with Bright's disease. The above case, however, acquires great importance from the fact that symmetrical gangrene was present before it was possible to discover any evidence of other disease, the urine and heart having been repeatedly examined."

Closely allied to this form of endarteritis is the syphilitic endarteritis. Syphilis is largely a disease of the vascular system, and it is a matter for surprise that attention has not been directed to the condition of the minute vessels ere this.

That syphilis is one of the causes of chronic endarteritis has long been recognized, but the observations have been principally confined to a study of the condition in the cerebral vessels, and as far as these observations go they only tend to emphasize a single fact, and that is that syphilitic endarteritis runs a more rapid and destructive course than the ordinary form. A study of the cases published reveals that in syphilitic endarteritis we find

either induration of the vascular walls without encroachment upon their lumen, producing transient circulatory disturbances varying in intensity according to the nature and seat of the area involved; or we find complete obliteration of the artery with its concomitant phenomena. The affection, as well as its resulting conditions, is usually symmetrical.

The cases published are those of Duplay, Cabot and Warren, Leudet, Baroux, Brault, Wilks. Ornella's and Schuster's cases closely resemble Raynaud's disease.

This list could be extended, but the following case, cited by Jacoby in the above-mentioned article, will make further testimony or comment unnecessary; it was observed in conjunction with Dr. H. G. Klotz. Its importance entitles it to detailed reproduction.

"C. D——, male, aged thirty-seven, called on me on January 7, 1890. Patient was infected with syphilis seventeen years ago; he gives a clear, subsequent syphilitic history, having been afflicted with various syphilitic manifestations during the three years following the exposure. Since that time, with the exception of an attack of diphtheria two years ago, he has been fairly well. On November 28, 1889, he was exposed to a draught, which was followed by an attack of bronchitis from which he recovered in a couple of weeks. About ten days prior to his first visit to me, upon rising in the morning he noticed that his right hand was cold and swollen, the tips of the fingers having a bluish color and a mottled appearance. At the same time, or a few days later, the left hand became similarly affected, but to a slighter degree. Severe pains in the fingers of both hands then set in; in addition to the pains he also had a feeling of burning and of painful tingling in both hands. The pains during the day were quite bearable, but at night they were so severe that he was unable to sleep.

"Examination shows both hands to be affected, the right one being much more so than the left. The fingers most involved are the third, fourth, and fifth; they are swollen and reddened, with their ends cold and livid. This coldness and discoloration extends upward to the metacarpo phalangeal articulations, but is most marked at the distal ends of the fingers. The difference in the temperature between the ends of the fingers and that of the rest of the hand is exceedingly pronounced; the temperature of the cold parts was not measured, as no surface thermometer was available, but I think that when I say that the difference was at least 10° F., I am rather underestimating than overestimating the condition.

"There is no pain to pressure over any nerve trunk; a small spot over the fourth metacarpal bone of the right hand is quite sensitive to pressure. Superficial anæsthesia is present; pain is experienced when a needle is introduced more deeply. The swelling of the fingers is tense and unyielding. Pulsation is well marked in the radial and ulnar arteries of both hands. The heart and kidneys are normal. The patient, after having been seen by Dr. Klotz, was placed upon a mixed anti-syphilitic treatment.

"January 14th.—Condition slightly improved; swelling not so great. Patient complains now of continuous severe pains in the ends of the fingers. The nails just below their free border show a circle of hemorrhagic spots. The pulps of certain fingers also show spots of hemorrhages shining through the epidermis. The swelling and the bluish color are less prominent; the feeling of cold to touch is now hardly perceptible; the fingers are very sensitive. On the tips some portions are of a white color, suggestive of a flat bulla or blister, covered by a thick layer of epidermis; besides the white spots other portions attract attention, which are of a dark-red color, and the tips of the fingers have precisely the appearance as though they had been exposed to severe cold. The general appearance of the patient has considerably improved.

"January 29th.—Decided progress in improvement, particularly as regards the swelling and motility of the fingers; so also are the tips of the fingers much less sensitive; on some portions the epidermis is becoming detached in the shape of hard, thick scales, while on other portions the skin is dry and divided by cracks; some of the tips are hard and calloused. The left hand has undergone the same changes as noted of the right.

"February 2d.—The callosities have gradually concentrated themselves upon the extreme tip of the fingers; then necrosis with formation of new skin underneath has taken place. The fingers to-day are neither swollen nor painful, but the ends are still hard, with necrosed places on each, they look as though they would soon be entirely well.

"May 1st.—Patient has been in Hot Springs, Ark. There he had twenty-four inunctions, thirty-one baths, and two mineral vapor baths. He says that his right hand is an inch and a quarter larger than formerly, which he knows from the fact of being obliged to wear a size and a quarter larger glove than before he was taken sick. The fingers still feel worse when exposed to cold. To-day it seems to me as though the right radial pulsation were not as strong as that upon the left side.

"June 9th.—The iodide which has been taken right along is discontinued; fingers somewhat stiff, but are improved by massage.

"August 5th.—Hands in good condition, although the subjective feeling in them is not entirely natural.

"December 4th.—Hands have normal appearance, but patient still complains of their getting cold very easily. Otherwise they are normal."

Hutchinson advanced the proposition that a syphilitic arteritis may begin in the small arteries of the fingers and ascend, radial pulsation being generally lost after the second attack. He reports a case in corroboration of this view.

Another case, published by Klotz, closely resembles Hutchinson's and is as follows; it is also quoted by Jacoby:

"The patient was a male, aged twenty-five. He was syphilitically infected three years prior to coming under observation; when he presented himself for treatment (February, 1889), in addition to syphilitic ulcers he complained of an affection of several fingers of both hands. The changes in the fingers had taken about a month to develop, and are described by Klotz as follows: 'On examination I found the fourth and fifth fingers of the right hand of a decidedly bluish, somewhat mottled appearance, and distinctly colder than the other three fingers, which presented a perfectly natural appearance. On the affected fingers the free border of the nails appeared remarkably white; next to the free border a zone of fine reddish streaks surrounds the nail, which looks dark blue, like the entire distal phalanx. This color extends over the whole finger, diminishing in intensity toward the knuckles. The fingers are not tender to touch or to pressure. In the centre of the tip, close to the nail, on the fifth finger, the epidermis over a well-defined spot, about the size of a silver five cent piece, is thickened, the surface being brittle and slightly scaling. The fourth finger exhibits nearly the same condition, the thickening of the epidermis only being less pronounced. The other fingers and the hand itself do not show any change of color or of temperature. A similar condition is observed on the third, fourth, and fifth fingers of the left hand, the fourth being less affected than the others. . . . On both wrists the pulse can be distinctly felt, the radial as well as the ulnar, the latter naturally somewhat less distinctly. Neither at the fingers, hands, nor arms can a thickened blood-vessel be felt.' Several attempts were made to measure the temperature of the affected fingers, but without success; it was certainly less than 91° F."

Numerous and valuable observations are contributed to the study of this part of our subject in No. 359 of *Sammlung klinische Vorträge*, by Karl Koch in an article entitled "Die Syphilitischen Finger und Zehenentzündunger."

In this monograph are found a number of personally observed and quoted cases presenting the affection in symmetrical distribution.

Leaving the consideration of vascular disease, we come to the question of anatomical nerve-lesion as productive of symmetrical gangrene.

Here we find that, since the studies of Dejérine and Laloir, in 1881, upon two cases of acute decubitus, where the nerves of the affected parts were found in a state of parenchymatous neuritis, observations are not wanting in number and authenticity to establish neuritis as a potent factor in the production of gangrene. This condition of the nerves has already been alluded to in the pathological reports quoted above, and we may presume to assert that it would hardly be difficult to select cases belonging to this category from among the symptoms enumerated from cases published as examples of Raynaud's disease.

It might be proper to insert here the condition known as "syringomyelia" as related to the above, which is also recognized as producing indirectly gangrene of the extremities, and under which caption most probably belongs the condition of symmetrical gangrene known as Morvan's disease.

There is, however, one condition, obscure in its nature and manifestations, properly belonging to this group of affections, presenting gangrene as one of its symptoms, worthy of special mention, inasmuch as our case probably belongs within its domain, namely, scleroderma.

Although as ordinarily treated of in text-books and larger works on skin diseases, no mention is found of gangrene as occurring during its course, an article by H. Senator, in the *Berliner Klinische Wochenschrift*, No. 31, entitled, "Ueber einen Fall von Sklerodermie und Sklerodactylie," presents a case of this nature in which, however, the loss of terminal phalanges was due to a slowly progressing atrophy without suppuration or necrosis.

We find in this article that the first case of this kind was published by Ball in 1871. Following this there were cases published by Charcot, A. Dufour, and Hallopeau. The latter compared the affection to hemiatrophia faciales, and interpreted both conditions as examples of tropho-neurosis with different localization of clinical manifestations, a view shared by A. Eulenburg.

R. Lepine presented a case in which scleroderma, melanoderma, and sclerodactilitis were found in conjunction with right-sided facial hemiatrophy.

This and similar cases have led Grasset and Apollinario to the conviction that Raynaud's disease and sclerodactylie are identical.

In this connection the recent reports of Arnozau[1] and Dinkler,[2] are of interest, inasmuch as both found disease of the palmar arches in cases of sclerodactylie.

The occurrence of gangrene in leprosy is too well known to require more than mere mention, while it is essential to include the enumeration of such conditions as Morvan's disease (probably syringo-myelia), a condition described by Dr. Morvan, of Brittany, in 1883, of which several cases have been recorded. A disease which affects the upper, rarely the lower limbs, and is characterized by neuralgic pains, by wasting and anæsthesia, affecting the forearms and hands, and also by what is regarded as pathognomonic—the occurrence of whitlows on the fingers.

As a rule the whitlows appear last, so that as the anæsthesia is already established, they are not painful. Sometimes the first whitlow is painful, while the subsequent ones are not so. There is destruction of the phalanges. Other trophic changes, such as cracks in the skin, deep ulcerations, coldness and lividity of the extremities, with profuse sweating, present themselves, while the nails become shrunken and atrophied.

The condition described by Weir Mitchell as erythromelalgia, consisting of painful circulatory disturbances in the skin of the extremities, as well as the condition known as atrophia cutis, described by Fox, cannot come into consideration, inasmuch as they are not productive of gangrene.

This leaves but one disease to consider in this relation, and that is the process known as white gangrene, about which we find much confusion, with but little information.

It seems to be a special condition of great obscurity as regards its cause, and of great rarity. Very few have ever seen it, but the description of those who have leaves no doubt of its peculiar character.

It appears in early adult life, one attack is usually followed by others; the invasion is apt to occur in the debilitated and ill-fed. An incursion of the affection is preceded by pains in the part, often of a decidedly neuralgic character, and, when in the extremities, extending from the part to be attacked along the nerves leading to the trunk. These pains, accompanied by general depression, may continue for weeks or months before the occurrence of gangrene, which at length shows itself by the formation of circumscribed spots, sometimes including whole fingers or toes; this spot is irregular in outline, with a tendency to become circular and of a dull white color.

The skin soon becomes dry, parchment-like, and somewhat shrivelled, a condition which is retained up to the time of separation of the slough.

The process varies in intensity, as well as in the depth of tissue involved, sometimes destroying the bones.

Thus ends the enumeration of the conditions capable of producing the phenomena of symmetrical gangrene, the consideration of ordinarily recognized causes of mortification being purposely omitted from the text as superfluous.

The review of the condition known as Raynaud's disease, to which these pages are devoted, was not undertaken with any purpose to detract from the true and recognized value of Raynaud's work, which in itself represents but an essential phase in the evolution of the knowledge concerning this condition, which has accumulated since the formulation of his doctrines, and without which the condition might have remained in obscurity; the object of the article was undertaken with wider sympathies, and with an honest desire not to attack the views of another, but to utilize those views for the purpose of bringing the truth to light.

How far we have succeeded in this must be left to the judgment of those capable of weighing the evidence, and that all-potent factor in the solution of vital problems, time.

In closing, we cannot desist from formulating our position as follows:

1. The cases upon which Raynaud's hypothesis were based are valueless, inasmuch as they do not fulfil the conditions demanded for their proper utilization.

2. The clinical histories of Raynaud's cases, as well as those cases published by others, present a symptom complex entirely out of harmony with his deductions as to their pathogenesis, and are easily recognized as belonging to other well-known and established conditions.

3. The post-mortem evidences found by eminent and reliable observers fail to support the views of Raynaud, inasmuch as anatomical lesions are recorded as having been found in the vessels, organs, nerves, or blood.

4. Our modern conception of functional disorder cannot be reconciled with the symptoms and lesions enumerated as occurring in Raynaud's disease.

5. There are conditions capable of producing gangrene, not generally taken cognizance of, whose pathogenesis throws an important side-light on the nature of Raynaud's disease, namely,

6. Endarteritis, simple or specific, may exist in the peripheral capillaries or arterioles, capable of producing the gangrene in question, without presenting during life the manifestations usually regarded as pathognomonic of endarteritis. In view of which,

[1] Congres International de Dermatol. et de Syph., Prog. Médical, ii., p. 162, 1889.

[2] Wanderversammlung der Südwest Neurologen, etc., Berliner klinische Wochenschrift, p. 954, 1890.

7. Raynaud's disease, if it has any existence, cannot be diagnosticated during life; for admitting the possibility of excluding all other conditions capable of producing gangrene, we must yet exclude this form of endarteritis, whose presence could be demonstrated only on the post-mortem table, and whose absence is a *sine qua non* to the acceptance of Raynaud's disease in the sense of its author's conception.

Thus we see that the acceptance or rejection of Raynaud's propositions must rest entirely upon negative evidence of the nature of post-mortem proof of the absence of all anatomical changes explanatory of the gangrene, thus proving beyond a doubt the functional nature of the disorder; and it must be in this direction only that corroborative evidence should be sought and accumulated before this condition can be established as an entity justifying Raynaud's deductions and our acceptance of them.

THE TREATMENT OF CHRONIC RHINITIS

By KARL VON RUCK, M.D.,

DIRECTOR OF THE WINYAH SANITARIUM FOR DISEASES OF THE LUNGS, NOSE, AND THROAT, ASHEVILLE, N. C.

It is not my object to give details of methods to be pursued in the treatment of this affection, all of which are found in current medical literature, but to call attention to an article in the MEDICAL RECORD,[1] by Thomas F. Rumbold, M.D., which, while setting forth some truths, is in my opinion nevertheless misleading, and should not be allowed to go unchallenged, considering its distinguished author and its wide diffusion through the journal in whose pages it appears. Dr. Rumbold's paper purposes to set forth five causes for failure to cure chronic rhinitis, the first being defective instrumentation, especially defective tongue depressors, manipulated by the physician instead of by the patient. No one will gainsay that a tongue depressor about six inches long and two wide, to go between the patient's teeth, is an unsuitable instrument, and any intelligent physician would prefer to such a one the handle of a spoon, until he could get what would answer his purposes and convenience. The author, however, carries the idea that with a suitable instrument, held by the patient himself, inspection of, and local application to, the naso-pharynx can easily be made. While true in some cases, it utterly fails in *the great* majority, especially if the inspection is to be a thorough one, or the manipulation with instruments requires to be more than momentary. In such cases the soft palate must be held away from the posterior wall by one of the usual methods, in order to accomplish our object. That in cases where we succeed, any advantage is derived by having the patient hold the depressor, I think is erroneous; in my experience the attempt was, as a rule, unsatisfactory, and the physician's holding his depressor, placing it properly, and exerting gentle pressure in the proper direction, can hardly be classed as a cause for failure to cure the disease; indeed, any physician could get along with a spoon, if he had to, and yet cure a case of chronic rhinitis.

The second cause for failure, the author sees in the use of watery sprays, or cold fluid vaseline sprays, instead of warm vaseline sprays.

I would humbly offer the opinion that all, excepting perhaps the mildest, cases of chronic rhinitis are incurable by sprays of any description, not excepting warm vaseline. Temporary benefit may, and frequently does, result from such treatment, and I have obtained such results from the most varied applications, warm or cold, and seen it even from salt and water snuffed up by the patient, and the use of various snuffs, powders, and ointments. In the light of my experience failure to cure is not due to the particular kind of spray, but to the fact that physicians place faith in these as a curative agent.

[1] Issue of November 23, 1889.

The third reason for failure Dr. Rumbold sees in the use of compressed air apparatus, operated by pump of brass with leather piston lubricated with oil, furnishing a bacteria laden air, the bacteria being derived from decomposing lubricants and decomposed animal tissue, *i.e.*, the leather packing; he also holds responsible the undue force with which the sprays are projected against the patient's tissues, and would have the pressure just so much for one purpose and more or less for another, etc.

While I do not pretend to say how filthy compressed air-tanks and pumps may become, I nevertheless maintain that an oiled surface cannot give off bacteria to the surrounding air; also that leather is not necessarily decomposing animal tissue. I have however made a careful examination of my air-pump, and subjected the air from my receiver to the proposed test, with negative results. To prove his position the author must show, not only that bacteria are found in the receiver or air-pump, but also that they are pathogenic; he must show that the air with which he filled his receiver did not contain them. As to the relative amount of pressure employed, I take it that enough to properly work the spray apparatus is sufficient and answers every purpose, and I think the author can satisfy himself that the pressure indicated by the gauge of the receiver bears no relation whatever to the force with which the liquid is projected against the patient's tissues. Neither do I approve of the use of the spray for the purpose of blowing the secretions out of the nose or throat, as Dr. Rumbold proposes, but chiefly as a cleansing wash, by which the secretions find exit through the natural channels by gravity. For the same purpose powders are occasionally useful by stimulating the natural secretions, and thus exert a depleting as well as cleansing effect. Another cause for failure the author sees in comparative insufficiency of the instrumental outfit of offices where nasal disease is treated, and he compares the physician who has not an elaborate outfit to the merchant who attempts to do business without a proper stock in trade. I, for my part, would fear more for the patient in the hands of a physician whose stock in trade consists of numberless instruments, elaborate apparatus and appliances, instead of proper knowledge, keen perception, and experience, than for him who is treated by a physician whose stock in trade is chiefly "brain," and who may find it entirely unnecessary to equip himself with anything but the simplest devices and instruments for his work.

The fact is that the armamentarium for the treatment of common nasal affection is not necessarily complicated or expensive, a fair and convenient outfit need not cost more than $50 or $75; unless, for greater convenience or elegance, we want fine operating-tables or stands, expensive illuminating apparatus, electric motors, air-tanks and pumps, etc., all of which can be dispensed with without disadvantage to the patient in his prospect for a cure. Even a specialist will get along nicely with an outfit that he can carry in his pocket. Indeed, the simpler the apparatus the better work we can, as a rule, do with it, and it is in better professional taste to avoid all showy apparatus. I conclude, therefore, that the cause for failure in curing chronic rhinitis does not lie in any of the first three points made by the author, but is more likely to be found in his fourth and fifth causes, namely, insufficient anatomical and physiological knowledge on the part of the practitioner; and although I agree with him in this respect, I do not believe that the form of treatment he objects to as faulty from this cause is necessarily so, on that account, nor that his criticisms are all justifiable. Indeed, I find that some of the best authorities conflict seriously with the author's views on etiology, which although not distinctly expressed, he seems to hold. Thus he, for instance, complains of the initiative correction of partial or complete nasal stenosis in the beginning of treatment, and to the removal of hyperplastic tissue; he believes in "taking cold," and the use of tobacco or alcoholic liquors, as the chief etiological factors of chronic rhinitis, a position he could not main-

tain in the present light of our knowledge. He complains of scar tissue as occurring in the nose after operations, and its interference with physiological functions, but he utterly fails to give us a glimpse of his views as how these functions are to be restored in chronic rhinitis with stenosis and hyperplastic changes, without operation, unless he accomplishes all that with sprays of warm vaseline.

The author justly urges the importance of hygienic and sanitary measures, without which the most painstaking treatment will be greatly hampered and relapses after cure will be more numerous.

In conclusion, I desire to say that it is not only the specialist who can successfully treat chronic rhinitis, but the general practitioner also, if he will, by painstaking study of the cause, thorough examination and diagnosis, furnish himself the indications to be fulfilled in a given case. To be successful, however, a free and unobstructed passage for the air through the nasal passages must be secured, which, unless in the mildest cases, cannot be accomplished with medicaments in the form of sprays (watery or of vaseline), or powders, but requires operative interference. The success does not entirely depend upon the peculiar method by which we overcome the obstruction and secure patent nasal passages, be that by chemical or galvano-cautery, saw or knife, snare or écraseur, but upon the efficiency and permanency with which it is accomplished by the agents employed. Much is to be done in the after-treatment, in which sprays, especially of warm vaseline, serve a useful purpose, as do also proper care of the skin, and other hygienic measures, the correction of digestive derangements, etc.

Asheville, N. C.

INJURY TO THE THORACIC DUCT, WITH AN UNIQUE AND INEVITABLE DEATH BY INANITION.

By ALVIN EYER, M.D.,

CLEVELAND, O.

December 17th last, Charles G. S—— was admitted into Lakeside Hospital with the following history: Railway brakeman, aged twenty-eight, with good general health up to the previous day, when he met with an accident, the following report of which is as complete as could be obtained. By the slipping of a "push pole" (a pole attached by one end to an engine and used in moving cars) he was so caught as to be squeezed against the foremost car and bodily rolled out from between the two. When picked up he was found several feet from the train and in an unconscious state.

Upon being brought some thirty miles an examination brought to light little beyond severe localized pain in the right lower chest with some considerable injury to the right forearm, and a distinct band of discoloration some four inches in width, encircling nearly the entire abdomen. While no crepitus was found it was still thought best to firmly strap the right chest as a precautionary measure against possible fracture of one or more ribs. This, with attention to the injured arm and such anodyne treatment as was required, was all that was deemed necessary for the time being. In the course of twenty-four hours, however, there was a rise of temperature and upon auscultation evidences of pneumonia, corresponding to point of injury over right lung, were plain. He was at once placed upon additional treatment, and for the next sixteen days seemed to run a favorable, yet perhaps severe, course of traumatic pneumonia involving the entire lung.

Beyond somewhat more pain than one generally observes in such cases, however, nothing unusual presented itself, except on the second day, when there appeared a gaseous distention of the abdomen and also enough dyspnœa with a hyper-resonance of both lungs to suggest pneumothorax; but whether pneumothorax actually existed or whether this condition depended upon the abdominal distention was not definitely determined at once and in twenty-four or thirty-six hours the whole chain of symptoms, in so far as the thorax was concerned, passed away, leaving the patient about as before with the exception of more or less constant abdominal tympany.

On the seventeenth day there came a great and most remarkable change over our case. Pain was complained of, and upon examination some redness with soreness upon pressure was found directly above and somewhat behind the anterior superior spinous process of the right ilium. Upon deep pressure fluctuation could be obtained; and after the introduction of an exploring needle, an opening was carefully made quite down upon the external oblique muscle.

The moment the fistulous tract was struck there came a gush of most offensive gas, followed by a flow of nasty-smelling discharge, not unlike fecal matter both in appearance and odor. So offensive was this discharge that the patient had to be removed from the general ward into an apartment by himself. An intestinal fistula was at once thought of, and in the next day or two, with the opening still discharging a fluid very similar in appearance to what was given him to eat (expressed beef-juice, milk, and whiskey), and with repeated assurances of the orderlies that its odor was identical with what had passed per rectum, the diagnosis of such a fistula confirmed itself in our minds without further or special investigation.

After two or three more days the discharge lost its offensiveness to a very great degree; but otherwise remained much the same—opaque and milky—with marked increase of flow at any time the patient was asked to bear down as though at stool. At this time, too, rapid emaciation set in, and from these two facts—loss of odor and the unusually rapid emaciation—it was inferred that the intestinal lesion was high up and the food-stuffs given him came away as chyme. Under this belief it was deemed best to limit stomachic alimentation, as to quantity, and confine it entirely to predigested nitrogenous foods, while rectal feeding was pushed to its utmost limit. Notwithstanding, however, this forced feeding and the apparent well-doing of his pneumonia the patient was still rapidly succumbing to starvation. So rapid was his inanition that it was estimated his body loss—from the date of fistulous formation (seventeenth day) to death (thirty-eighth day)—exceeded four pounds per diem, and that his entire loss much exceeded one-half his normal body weight.

During all this time we could see nothing to be done, more than sustain strength and life until such time as the patient's pneumonic condition would permit a restoration of the intestinal continuity, keep the tissues of the right side well open to favor drainage, and prevent sloughs. Starvation, however, went uninterruptedly on, and as already stated, death supervened on the thirty-eighth day after injury.

This, then, briefly stated, covers the history, clinical course, diagnosis, and fatal ending of our case. To sum up its clinical significance we will take up: First, our diagnosis, not in its entirety, but only in so far as the fistula was concerned; second, the autopsy and its findings; third, a study of the case, upon the whole, with the view of establishing a differentiation between fistulæ communicating with the thoracic duct, and such other fistulous tracts as may prove undefined or doubtful as to origin.

1. In defence of our diagnosis of intestinal fistula I will only say: In the sixteen days' observation of the case there were, with but three exceptions, absolutely no indications of disease or injury other than those referrible to the right lung—now in an advanced stage of pneumonia.

With the appearance, therefore, of the painful bulging, followed by the rush of gas and fluid upon lancing, which plainly established the existence of some form of fistula,

the exceptions—a band of discoloration, obstinate bowels, and slight tympany—were recalled; and, for the life of me, nothing could have been plainer or more easy to diagnose.

In fact, the whole case seemed too plain and simple to be mistaken. The gas and decidedly fecal smelling discharge in themselves moulded at once our belief, diagnosis, and mistake. That there was a fistula was plain; that it was fecal was too plain, and there we rested.

To give you the benefit that was given the House Staff, let me tell you, as was told them, how all this chain of occurrences happened:

"You see this man was caught between the end of a pole and a box car; the little black and blue band about his waist plainly indicates to you what part of the body was caught. Now the pole must have so squeezed the abdominal parieties up against the car, as to impinge a knuckle of gut within its embrace; and while this did no immediate or serious injury to the belly or its contents, there still must have been enough harm done to subsequently set up a low form of plastic inflammation whereby the gut and peritoneum became agglutinated and adherent one to the other.

"In due time, of course, death took place in that portion of the gut and the delicate serous membrane which was most centrally located in the adhesion, and then the tissues gave way and the fistula became established. Of course it could not communicate with the abdominal cavity, because you see the opening through the gut and peritoneum was simultaneous; and as the healthy portions of the two are still adherent there is a sort of artificial anus formed, and through it, of course, the fecal matter must pass, then force its way on through the extra-peritoneal tissues in whatever direction it finds least resistance. Observe as you make pressure on this side a wave appears on the opposite side, not far underneath the skin, and beginning evidently in the linea alba. That is the fluid coursing its way through the newly made channel toward its outlet.

"As to what can be done in such cases, for the present we will only make a freer opening, so as to give free vent and prevent the burrowing of fluids and subsequent sloughing. Later on, of course, when his pneumonia has subsided, laparotomy with, perhaps, enterectomy, will be performed, all of which will be a simple matter.

"Stimulate and feed him well, for, as you see from what has been said concerning the character of the discharge, which really seems to be nothing more than partially digested milk, whiskey, and beef-juice, the lesion must be high up, and therefore the area for absorption is greatly cut off.

"The discharge which, you will remember, was so very offensive no longer smells badly, which also means that the foods leave the canal high up, and therefore have no chance for decomposition.

"This without doubt would be a nice case for Senn's hydrogen gas test, but, as the case is so plain and the poor fellow has already been badly hurt, we will pass that by. The pneumonia, of course, is a contra-indication for the use of an anæsthetic, so all we have done, as you know, had to be done under the local spray and cocaine, neither of which is very effectual."

These, in substance, were the clinical points upon which was based our diagnosis two days after the fistulous formation. From then on the patient's pneumonia did well and seemed promising; and so was also our forced feeding borne well by him, but he starved to death on the thirty-eighth day, and thus ended our first lesson.

Autopsy.—In making the autopsy it was at first determined to follow the tract from without in, but as it proved to run an unfavorable course for such a step, the attempt was abandoned and the abdomen gone into through the linea alba—the incision extending from the ensiform cartilage to the pubes. At first glance there could be seen many evidences of starvation's fearful ravages. All the viscera presented an unusual dryness, with the surface of the intestines and liver much darker in appearance than normal. The gall-bladder was greatly distended and seemed on the point of bursting; while the omentum, always so rich in fat, was but a mere network of blood-vessels and connective tissue. These points being noted the point of "adhesion" was at once looked for, but no such condition could be found; and then a search for the fistula began. For this we looked high and low. Applying a double ligature just above the sigmoid flexure and dividing the gut between the two, we emptied the abdomen from below up, carefully noting every pathological change as we went.

Up to the diaphragm we failed to find even evidences of inflammation, new or old. In fact, the abdominal cavity seemed absolutely free from pathological conditions, and after going over the intestinal tract again and again, we thought it possible that the œsophagus might be the seat of lesion. So accordingly the liver and pancreas were removed and the diaphragm, beginning at the œsophageal opening, slit up to the ensiform cartilage.

In removing the liver from its lodgment it was observed that it was adherent to, and much softened about the aortic opening in the diaphragm, with evidences of recent inflammation, and several masses of a cheesy deposit, not unlike the residue of partially digested milk in appearance, embedded in its upper surface. The diaphragm up to the œsophageal opening also showed the same evidences of inflammation, and at this latter point the bands of muscle forming the opening were so adherent and matted to the gullet that, in separating and lifting the latter out through the cut made in the diaphragm, it was so torn as to prevent us from determining whether its destruction had been ante-mortem or made by us. From the character, however, of the blackened and broken-down tissues, not only of the liver but the diaphragm and œsophagus, and our failure to find any other lesion, we momentarily concluded we had reached the seat of trouble.

The sternum and cartilages were next removed and after carefully examining the diseased right lung, which was found in various stages of hepatization, the same was lifted out of the thorax, and the upper surface of the diaphragm about its openings further examined. Its condition was similar to that found below, except, perhaps, that the inflammatory process had not been so extensive. The gullet above this point was also further examined but found to be perfectly healthy. Upon complete removal of the lung from the chest there was discovered a bulging into the cavity, from the back and uppermost point of its apex, which upon more careful investigation was found to be a post-pleural collection of fluid. Upon tapping its sac this fluid seemed to be identical with that which had been making its escape per fistula during life, and further examination proved this finding to be correct. The pent-up fluid was our supposed chyme, and had burrowed its way between the pleura costalis and chest-wall by gravity while the patient was flat upon his back. A careful dissection also proved the incorrectness of our just-formed belief that the lesion could have been in the œsophagus at the point of opening in the diaphragm, for in no way could that tear and the newly found cavity be made to connect. This discovery, then, put us entirely at sea, and it was not until the bulging pleura was again referred to and its contents found to consist of a rich creamy clot, overrun by a brownish liquid, that a chyle-clot and lymph were thought of.

Specimens were at once examined by heat and the microscope. The former clearly proved the fluid to be pure lymph, while the microscope showed us a collection of the most beautiful specimens of chyle-corpuscles ever looked upon. Thereupon the autopsy was brought to a speedy end by going directly into the posterior mediastinum, and but little deeper than we had gone for the gullet, where the hard-looked-for hole was found—not in the alimentary canal, however, but in the thoracic duct. It was through this hole, then, that all our endeavors for the poor fellow's life had slipped. The fistula was found

within the very opening formed by the diaphragm for the tube's reception, and the diaphragmatic crura, fasciculi, and interdigitations surrounding it likely had much to do with its formation, and probably led to the division of the stream of chyle, directing the one into the thorax and the other through the muscles of the back and abdomen to its ultimate point of outlet.

Points of Differentiation, as presented in this case, bearing directly upon the non-existence of intestinal fistula, and somewhat plainly indicating division of the thoracic duct.—Under this head comes, first in order, Senn's hydrogen gas test. Had this test been applied, without doubt its results would have led to such further investigation as would have ultimately led to a correct diagnosis. Second, heat test and miscroscopic examination of fluids discharged. Had the former test been resorted to, these would surely have followed and a correct diagnosis might possibly have been arrived at. Third, shortness of inanition period. This, it would appear, should prove, in an otherwise healthy subject, a strong and emphatic diagnostic point indicative of thoracic duct destruction.

The adult subject, it is well-known, succumbs to starvation in twenty to twenty-four days; but the phenomenon generally takes place under the withdrawal of all nourishment. Here, while the subject was suffering from pneumonia, and was supposed to have an opening near the stomach through which his food escaped, death still came entirely too soon; for under the forced rectal alimentation, life should have been maintained for many weeks longer, had the fistula been elsewhere than in the thoracic duct.

Comments Worthy of Record.—In endeavoring to arrive at the probable cause and time of lesion, which it seems to me would be of interest to know, two questions put themselves: Was it the destructive outcome of existing inflammation and formed on, or about, the seventeenth day? or, Was it purely traumatic and formed on the day of original injury? The inflammation about the aortic opening in the diaphragm and adjoining structures, as found in the post-mortem examination, with the intervening sixteen days before the fluid came to the surface, combined with the terrifically rapid emaciation after the seventeenth day, would all speak strongly in favor of the first proposition.

In my judgment, as formed from a careful noting of the entire case, however, it would be under the latter proposition that the actual cause and time should be placed. In support of this, I would argue that the division was sustained in the accident, but happened to be so located within the grasp of the tendinous arch, thrown from one crus of the diaphragm to the other, that immediate, continuous escape of lymph was checked, and the chyle-clot (found upon the removal of the liver) allowed to form in the tissues about the lesion, and so pack and arrange itself there as to temporarily dam up the break. I believe this condition to have existed up to about the sixteenth day, when the inflamed tissues gave way and the burrowing of chyle began.

The main point in support of this theory is to be found in the peculiar tympany appearing on the second day after the injury. The distention, which was not only peculiar in its mode of coming but remarkably so in its stay, could not, at the time, be accounted for. The symptom proved unusually distressing, because of the existing pneumonia, and in our efforts to dispose of it full doses of salts were given, but to no avail. While the bowel discharges were copious and watery, the tympany still remained. This, it now seems, must have depended upon the gas being in the peritoneal cavity, and not in the intestines; and from its existence and its time of existence I infer it to have been a phenomenon coincident to the injury to the duct and also, therefore, a data fixing the time of said injury.

As to the cause of such an injury one could hardly conceive its possibility. Whether compression of the lower abdomen could so forcibly crowd its viscera against the diaphragm and upon the, perhaps, well-filled, duct, as to injure it; or whether the squeeze to the chest could have caused such forced respiratory efforts as to produce it; or whether an over-excited diaphragm could cause it by its muscular contractions, are only possibilities to be conjectured, but not shown. How this tube, lying as it does between the aorta and vena cava, could be singled out and divided by causes either indirect and inflammatory, or direct and traumatic, without also tapping one or the other of its fellow companions, seems to us as incomprehensible, in the study of nature's method of applying her causes in obtaining her effects, as does it seem irrational that she should assign to this poor mortal a death so sure, yet indirect and terrible, as starvation, when she might as well have decreed the tapping of either one of said vessels and let forth his simple life in a single moment, without bodily pain or mental suffering.

It will be observed that in the autopsy no evidences of inflammation were to be found other than those in the lung, diaphragm, and the structures immediately adjacent to its aortic opening. These, of course, must be regarded as entirely traumatic. The post-pleural cavity, containing at least two pounds of chyle, with the channel leading to it from the point of rupture in the duct, and also the upper two thirds of the tract through the extra-peritoneal tissues, were as free from inflammation as though nature had formed and lined them. This latter condition, which positively demonstrates the non-irritability and homogeneousness of chyle to the textural structures of the human body, suggests two points of interest.

1. Could the chemico-physiologist ever be enabled to elaborate out of food stuffs a product identical with that made in the human digestive laboratory then it would appear the surgeon's skill and ingenuity might lead to some form of venous feeding whereby life might be indefinitely maintained.

2. Bearing upon the much-discussed question of asepsis versus antisepsis the case in point furnishes much practical information favorable to the former theory. Here existed a collection of chyle, pent up between delicate and sensitive tissues for a period of at least sixteen days, without the slightest evidence of inflammatory irritation. Had it been bile, gastric or pancreatic fluid, or even blood, surely no such inaction could have been expected. Upon what, then, could this difference depend other than the possession by the four latter fluids of materials septic to the body tissues, on the one hand, and the asepsis of the sterilized chyle, by virtue of its digestion, on the other? The mechanical irritation, by contact, of this fluid must certainly be as great as that of sterilized water by boiling at blood heat; and therefore it would appear that the aseptic condition of the surgeon and his materials in use should become in the end practical, and by all means preferable to the dangerously potent antiseptic remedies used as germicides.

89 Euclid Avenue.

Service of Legal Papers upon Insane Patients.—At a meeting of the State Commission in Lunacy, on June 2d, the following orders were adopted: 1. That the superintendent or officer in charge of each institution for the care and treatment of the insane be directed not to permit the service of any legal process whatever upon any insane patient, except upon the order of a judge of a court of record, which shows that the judge had notice of the fact that the person sought to be served was at the date of the order an inmate of such institution. 2. That no insane person be permitted to sign any bill, check, draft, or other evidence of indebtedness, or to execute any contract, deed, mortgage, or other legal conveyance, except upon the order of a judge of a court of record, which shows that the judge had notice of the fact that the person whose signature is sought to be obtained was at the date of the order an inmate of an institution for the care and treatment of the insane.

A CASE OF CÆSAREAN SECTION.

By HAL C. WYMAN, M.S., M.D.,

PROFESSOR OF SURGERY, MICHIGAN COLLEGE OF MEDICINE AND SURGERY, DETROIT, MICH.

On the evening of January 19, 1891, I was summoned to attend Mrs. J——, and perform the operation of Cæsarean section. Professor Dayton Parker was in attendance, with the family physician, Dr. McPherson, and after consultation they decided that the operation afforded the only chance for saving the lives of the patients. Professor G. W. Stomur and Dr. Newman were also summoned to the case. The lady was a primipara, who had been married ten months. She was of robust figure, and when standing presented an unusual prominence of the abdomen for a pregnant woman.

Her mother said she had always had a large stomach, and she thought it was caused by being run over by a wagon when she was about seven years old. She had had no severe illness, and was cheerful and hopeful, as women of her age are.

The largest circumference of her abdomen was forty-eight inches. The external genitalia were normal. The inferior strait of the pelvis was normal, and the pelvic canal gave no suggestion of lack of capacity as far up as the finger could reach. She called in her family physician three days before the operation, because of bearing-down pains and apprehension that labor was about to begin. He examined and found the os undilated but flattened, and from the patient's description thought her pain was due to approaching labor. He explained to her that the first stage of labor in first confinements was often slow and tedious, and that it taxed the patience of the patient to the utmost. He left her, with instruction to call him if the sufferings increased or the pains became more frequent. He heard nothing more until the next day, when he visited her and found that the pains had been less frequent and urgent in their character. He examined again and found the os had not changed materially from the condition he had observed the day before, and he left her with the impression that the case was one of "false alarm," and that she might go a week or more before being again disturbed. The next day he was called again. The pain had increased in frequency and severity. He found no material change in the os from what he had found forty-eight hours before. He remained with her a couple of hours and made frequent observations during the pains. He observed the os flatten out and dilate during a pain; could feel the fœtal head pressing against the membranes, and thought that the case was one of simple tardy dilatation. He saw her again in the night, and the condition being practically unaltered gave her a fourth of a grain of morphine to relieve her distress and hasten the progress of the case. She became comfortable under its influence and he was not called again until twelve hours later. He now found her suffering more severely than before. The pains were regular and forceful. The os had dilated to the size of a quarter, and the doctor expected to complete the labor in a couple of hours. Stimulation of the os with the finger increased the violence of the expulsive efforts, but the head did not advance. By conjoined manipulation with the left index-finger in the vagina, and the right hand over the abdomen, he found the left parietal eminence of the child presenting, and thought the head was prevented from engaging at the superior strait by resting too far forward over the symphisis. He then endeavored by conjoined manipulation to cause the head to descend, and introduced his hand into the vagina the better to manipulate. He now learned that the last lumbar vertebra was thrown forward on the sacrum until it approached within two inches of the symphysis pubis. It was clear that labor could not be accomplished by natural means. He tried forceps, called counsel, and tried to flatten the head so that it would engage. On either side of the projecting vertebra the pelvis appeared roomy enough, and there was no trouble in introducing and applying forceps but they could not be thrown far enough forward to grasp the head so that they would not slip off. Dr. Newman, who had a very small hand and arm, thought he could perform podalic version with advantage to the patients, but he did not succeed. The feet could not be brought down. Cæsarean section was now the last resort. She was placed on her back on a table, the abdomen was thoroughly washed with corrosive sublimate solution, after having been first cleansed with soap and water. It was dark and lamp-light had to be used. An incision, commencing two inches above the umbilicus, was carried down to the pubic symphysis. The abdominal wall was quickly divided, care being taken to secure all bleeding points with catch-forceps. The uterus rose into the wound and was kept in contact with it by pressure made on the outside of the abdomen by Professor Stomur. The finger was run over the presenting womb to determine the attachment of the placenta, which was found over the left cornu. Incision was made through the uterine wall, about five inches in length, and the fœtal head was at once extruded. Grasping it with my hands the delivery was soon completed. The placenta followed immediately. Very little hemorrhage came from the uterine wound, and the contraction of the organ was uniform and rapid. Not once did the intestines appear in the wound, so evenly was the pressure applied to the abdominal walls. The uterine wound was closed with interrupted sutures, nine in number, half an inch apart, and passed deep enough to embrace the whole thickness of the muscular wall of the womb. At the lower angle of the wound near the uterine cervix an irregular transverse rent was found at a point where the uterus had been greatly thinned by the pressure of the head. This required to be closed with three extra sutures. The uterine peritoneum was very lax, and by means of interrupted sutures was drawn carefully together over the uterine wounds, entirely separating them from the abdominal cavity, which was now carefully cleansed of bloody fluid which had apparently escaped from the rupture found at the inferior angle of the wound. It was closed by interrupted sutures embracing all the tissues of the abdominal wall, including the peritoneum. A dressing of iodoform and cotton, fastened with a bandage, was applied, and the patient put in bed. When the operation was commenced her pulse was 120 beats per minute, and her temperature 101° F.; when it was concluded pulse frequency was reduced to 98 beats per minute, and temperature remained the same. Dr. Newman made valiant efforts to induce vigorous and permanent respiration in the infant, but without success. The patient died forty-eight hours after the operation, of pulmonary œdema and cyanosis, the result of exhaustion of the right heart, due to the protracted labor. No autopsy was permitted, but the patient presented no signs of repair. Her bladder and bowels acted normally after the operation. In presenting this case I am reminded of the splendid achievements in Cæsarean section published by Professor Howard Kelly of Johns Hopkins University, in a recent number of the *New York Medical Journal*. His cases were all successful, and the operations were performed with neatness and despatch, as indicated by the stop-watch record of the "time" from start to finish. Whether any of them had been as long in labor, and had had as many futile attempts at delivery as my case, I do not know; but, while the value of rapid execution in the performance of this operation cannot be easily over-estimated, I believe there are possibilities in the history of the cases which will make Cæsarean section generally an operation with serious mortality.

The danger of not recognizing the condition of the patient until she is exhausted by heart-strain is liable to occur. In my case there was nothing presented to the family physician of an unusual character until the hand was introduced. She was neither a cripple nor a dwarf among the people who saw her every day, so there was

nothing to make the doctor apprehensive except the pro tracted and violent character of the labor, and that was not unusual for a woman with her first child. As to the time, indicating the rapidity with which the operation was performed, it was not taken, because no stop-watch was at hand, and the ordinary pocket-pieces carried by my friends were open to too many sources of error and inaccuracy to be considered available.

THE TRUTH ABOUT "TUBERCULIN."

By JOSEPH WILLIAM STICKLER, M.D.,
ORANGE, N. J.

1. It does not cure pulmonary tuberculosis in either its primary or advanced stage. 2. If administered during the primary stage, it is apt to hasten the progress of the disease. 3. If given during the advanced stage, it is almost certain of hurrying the patient into eternity. 4. It may be given in such small quantities as to produce no appreciable reaction, and yet a very little may, in some individuals, give rise to distressing symptoms. 5. By causing a necrosis of the pulmonary tubercular tissue, it exposes the patient to a risk (septic absorption) which without the tuberculin he does not, to the same extent at least, incur. 6. It is fairly well demonstrated that it liberates the bacilli and favors their migration to distant organs, or to parts of the lungs not originally affected. 7. It creates false hope by producing an apparent temporary improvement. 8. If given for diagnostic purposes, it will probably make the diagnosis clear by giving a fearful, possibly a fatal, momentum to the tubercular lesion, if there be one. 9. It is a poison, and as it has not the power to destroy the bacilli, it is out of place in the animal economy. A tubercular patient has about all the poisons in his system he can tolerate. 10. It is a remedy which thus far has done more harm than good. 11. As it has not the power to cure, or even alleviate, and has the power to make worse or kill, it should not, in cases of pulmonary tuberculosis, be used under any circumstances. 12. If used in surgical tuberculosis, and previously undiscovered tubercular lesions of the lungs be developed by its use, treatment should at once be discontinued. 13. It seems to have the power to arrest the progress of lupus, and in uncomplicated cases may be used without jeopardizing the patient's life. Should latent tuberculosis of the lungs be made manifest by its use in these cases, it should promptly be stopped. 14. As tuberculin is not curative when used alone, and has been demonstrated to be a dangerous agent, it is irrational to use it in conjunction with other remedies in the treatment of pulmonary tuberculosis.

The time has come when the plain truth should be stated, by competent investigators, in relation to the sub ject under consideration. The results thus far obtained have been discouraging wherever it has been used, no matter how favorable the attending circumstances and conditions as to home, climate, hygiene, etc. I know of none (not one individual) cured. I know of none whose improvement can be clearly traced to the use of tuberculin. You say you know of persons who have been improved by the use of this remedy. If you do, your experience has been at variance with mine. The great majority of observers who have had ample opportunity to test its value, say they have failed of obtaining the gratifying results they had looked for. That it has done great harm in many instances there is not a shadow of a doubt, hence I say it is unjustifiable to continue the use of tuberculin in cases of pulmonary tuberculosis. If it were true that this class of patients had been benefited by it, we might conscientiously employ it, but in view of the fact that such cases cannot be brought forward, the above assertion I consider a safe one to make. So far as surgical tuberculosis, lupus, tubercular glands, and tubercular ulcers of the larynx are concerned, if they be uncomplicated with pulmonary tuberculosis, the remedy may be used with comparative safety. But here again we are confronted by the fact that "cures" are wanting. Let us then be honest and fair in this matter, and say unreservedly just what we believe. I am sure the medical profession received the statement made by Professor Koch in regard to tuberculin with joy and hopeful anticipation as to its future. I am sure the remedy has had a most thorough and searching trial, and such a trial was right and commendable, because the evidence furnished by the early use of tuberculin led us to believe it could arrest the advance of tuberculosis by destroying the tissue in which the bacilli develop and multiply, without compromising the life of the patient. But having made an extensive trial, and having obtained only discouraging results, let us put aside our bottles of "lymph" and look for something which will kill the bacilli. When we shall have found such a remedy or agent we shall indeed have cause to rejoice.

Progress of Medical Science.

Acute Miliary Tuberculosis and Tubercular Meningitis.—Dr. Reinhold recognizes three forms of acute miliary tuberculosis: 1. The typhoid form, with symptoms of a general infection, any local symptoms having retreated into the background. 2. The broncho-pneumonic form, with symptoms chiefly referable to the respiratory organs. 3. The meningeal form, where symptoms referrible to the nervous system predominate. In addition there are transitional forms. Nearly always there is some old tuberculous centre which, owing to its limited extent, or a special localization, cannot be recognized during life; such, for instance, as caseating bronchial or mesenteric glands, obsolescent tubercle in the lungs, etc. Acute tuberculosis may be secondary to bone or joint disease, but rarely to advanced phthisis. At the post-mortem examination after tubercular meningitis tubercle is nearly always found elsewhere. Dr. Reinhold then considers seventy-six cases occurring in the Freiburg clinic under the three headings:

1. *Typhoid Form.* — Twelve cases. The diagnosis from enteric fever may be very difficult. Septic diseases, such as ulcerative endocarditis may be mistaken for it. Even rigidity and tenderness in the neck muscles may occur in enteric fever without meningitis being present, and indeed, in cases of miliary tuberculosis without meningitis, these symptoms are rarely met with. Henoch has pointed out how in children with pneumonia, especially of the upper lobes, cerebral symptoms may be present. Irregular temperature with no corresponding change in the symptoms is, in doubtful cases, in favor of tuberculosis. There is no regularity as to the time of the highest temperature in the day. The *typus inversus* is rarely seen. The pulse is faster in tuberculosis, and once fast it usually remains so independently of change in temperature. Irregular pulse is rare except in tubercular meningitis, where it is frequently seen. The value of great frequency of the respiration with hardly any signs in the lungs is important. Increase in the respiration-rate takes place before that of the pulse. The general appearance of the patient in acute tuberculosis is striking—his pallor and great prostration; later slight cyanosis is added to this pallor. As to the eruption, if there are serious doubts as to the disease being enteric fever, not too much stress must be laid upon the appearance of one or two spots, especially if they do not occur at the proper time. Dr. Reinhold then refers to a possible relation between erythema nodosum and tuberculosis, illustrating it by a case, and referring to Uffelmann's experience of the occurrence of this form of erythema in the children of tubercular parents. In tuberculosis the enlargement of the spleen takes place later than in enteric fever, and the tongue has no characteristic appearance. Increasing cyanosis may be the first sign to suggest tuberculosis. The appearance of small

râles here and there in limited patches, and slight alteration in the breath-sounds, especially if this be in the upper parts of the chest, are significant.

2. *Broncho pneumonic Form.*—This may be mistaken for acute bronchitis, but the dry stage lasts longer and the sputum is less in quantity. The primary focus of disease must be sought for, but the proof of this is almost impossible. Truly, bacilli in the blood or tubercle in the choroid can alone be looked upon as absolute proof. Choroidal tubercle was only found eight times out of fifty cases. They must be of a certain size before they can be recognized. Other changes in the fundus are hyperæmia or neuritis, one papilla being affected earlier than the other.

3. *Meningeal Form.*—Three kinds may be recognized: (*a*) the very acute form, reminding one of simple meningitis, or even of apoplexy; (*b*) the ordinary more subacute form with especial involvement of the base; (*c*) the markedly chronic form, simulating a psychosis or a tumor. In adults signs of spinal irritation may appear. As to temperature, acute hydrocephalus exercises a depressing effect upon it, as it does also on the pulse. So also does the development of miliary tubercle in the lung, according to the author. There are variations in the temperature even as regards any particular time of day. There may be an ante mortem rise of temperature, but more often there is a decided fall. The rise in temperature is not due to convulsions; it would appear to be brought about by the direct effect of the disease upon the heat regulating apparatus in the brain. Loeb sought to explain it by the amount of the exudation between the chiasma and pons, but it has been found in meningitis limited to the convexity. As to the pulse, there is a slowing—often irregularity—occurring early in the disease. It is subject to rapid changes. In the latter stages of the disease Cheyne-Stokes breathing may be observed. It may appear, then go away, and finally come back again. Those cases of sudden death in this form of meningitis are to be referred to a sudden paralysis of the respiratory centre. Dr. Reinhold says that the tache cérébrale may be of value when extremely well marked. In convex meningitis the pupils are narrowed, in basal unequal and dilated. The amount of intracranial pressure is also of importance. In moderate pressure the pupils are small; in much pressure they are wide. Exophthalmos was noted once. Spasm of the face muscles and paralysis have been referred by Wernicke to cortical trouble, by Strumpell to peripheral disease at the base. As regards motor troubles there may be irritation symptoms, spasm and tremor, or paralysis. These latter may be observed, and at the post-mortem no naked-eye changes found sufficient to account for them. It must, however, be remembered that meningitis is generally combined with a well-marked encephalitis, as is proved by the microscope. Sensation may be impaired, and the superficial reflexes, especially the conjunctival reflex, diminished on the weakened side. Prodromal symptoms are most often due to an old local tuberculosis of the brain. A case of Callender's is then referred to, in which there were epileptiform fits for several months before death, and tubercles of the pia were found, but no meningitis. In two cases there was disturbance of speech. Occasionally the mental symptoms are most marked

Spinal Meningitis and its Clinical Symptoms.—Changes are to be found in the spinal cord and in the sensory roots in cases of tubercular meningitis—serous exudation, swelling and disintegration of the axis cylinders, and cell infiltration. Rigidity of the neck is one of the most constant symptoms; it is absent if there be loss of consciousness. Blood in the posterior fossa of the skull may also produce rigidity of the neck. Diffused tenderness over the spinal column is only a part of a general hyperæsthesia. Kernig has described a flexion contraction at the knee-joint as a symptom of spinal meningitis. Hyperæsthesia may apparently exist without the cord being involved. Thus it must not be looked upon under all conditions as characteristic of spinal meningitis. It may be absent altogether in cases where the spinal cord is involved, just as in cerebro-spinal meningitis.—*The Provincial Medical Journal.*

Non-Puerperal Phlegmasia Dolens.—Dr. Cattle states that, under ordinary circumstances, contact with vascular walls which have not lost their vitality effectually prevents coagulation of the blood, and Lister found that blood confined in a vein by means of ligatures remained fluid for hours and even days after removal from the body; while, on the other hand, contact with ordinary inert solids hastens coagulation (*The Provincial Medical Journal*). This restraining influence of the living vessels is supposed by Cohnheim to reside in their endothelial lining, in virtue of which the coagulating tendency of small quantities of fibrin-ferment is rendered inoperative. From this it would follow that two sets of causes may operate in bringing about thrombosis: those which by injuring the endothelium destroy its functions; and those which, by increasing the amount of free ferment in the blood, increase its tendency to coagulate. According to Cohnheim, sluggishness and even stagnation of the blood do not in themselves occasion intravascular clotting, but in virtue of the impaired nutrition of the endothelium consequent upon the blood-stasis. In this condition clotting is apt to commence in the pockets of the venous valves, and from these points of origin may extend until considerable thrombi are formed. Free fibrin-ferment is formed during disintegration of white blood-corpuscles, and in lesser degree, of red corpuscles. In connection with jaundice it is interesting to note that the presence of the salts of the bile-acids in the blood causes solution of the red blood-corpuscles, with liberation of free hæmoglobin and fibrin-ferment. Under such conditions it is possible to produce acute thrombosis, at any rate experimentally; but Cohnheim does not consider the presence of cholates in the blood, occurring in the course of disease, a frequent cause of thrombosis. The part played by the white corpuscles in coagulation has been beautifully shown in experiments for the artificial production of thrombi, and which afford a clue to the mode of formation of white thrombi during life. When the process of thrombosis is observed under the microscope, the white corpuscles are seen to adhere in successive layers to the sides of the vessel, gradually becoming more densely packed together. Afterward the corpuscles degenerate, losing their nuclei and cell boundaries, and finally are converted into a granular amorphous substance indistinguishable from fibrin, but in the meshes of which large numbers of well-preserved white corpuscles still exist. Greater familiarity with the properties of the various proteids contained in blood has led to modification of the original views of A. Schmidt on fibrinogenesis by Hammarsten and others, who have shown that there exists only one antecedent of fibrin in blood plasma—viz., fibrinogen, and from it fibrin originates, in presence of the ferment. This latter according to Halliburton, is also a proteid of the globulin class derived from the disintegration of the white blood-corpuscles (hence the term "cell-globulin"), and probably of the blood-tablets also (Osler). Had Dr. Wooldridge lived to continue his investigations on the phenomena of coagulation, he would probably have added materially to our knowledge both of its physiology and pathology; but up to the present time his views as to the greater importance of lecithin, a phosphorized fat, than of the fibrin-ferment in initiating coagulation, have received no very wide acceptance or confirmation. As the essential causes of clotting, whether in the vessels or outside them, cannot differ very widely, it may not be altogether out of place for practitioners of medicine to seek for light, from physiological researches, and by so doing hope for insight into obscure pathological problems.

Precautions Against Yellow Fever.—Hereafter all vessels coming to this port from yellow-fever infected places are to be examined off the quarantine ship in the lower bay.

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SURGICAL TREATMENT OF TUBERCULOSIS BY CHLORIDE OF ZINC.

PROFESSOR LANNELONGUE, of Paris, has recently made a communication to the Académie des Sciences and the Académie de Médecine, which is regarded, in France at least, as of the very highest importance. The communication purports to describe a new method of treating tuberculosis, more especially of joints. This method is a surgical one and consists, so far as we can learn, of injections into the affected parts of chloride of zinc, the object being to produce a sclerosis of the parts peripheral to the disease.

Experiments, says Lannelongue (*The Lancet*), have shown that chloride of zinc produces a remarkable fibroid change in the normal tissues of animals, and, as might be expected, the same fibroid transformation is brought about by the same agent in morbid tissues in general, including the tubercular. This chemical compound may be said to fix the anatomical elements by killing them, for it obliterates the capillaries and smaller vessels around where it has been deposited. An inflammatory action is thus set up in the vascular walls, which narrows the calibre of the surrounding vessels for a considerable distance from the initial point. But over and above this another local change of the highest import is brought about. Very rapidly—even within a few hours—there is produced in the altered tissues, by transmigration, and probably also by cell proliferation, an enormous afflux of new anatomical elements. These young cells cause fresh œdema of the periphery of the granulation growths, and infiltrate the tubercular neoplasm to the fullest extent. From this moment the struggle sets in between the accumulated elements and the bacilli, especially between the migratory cells and the microbes, to the detriment of the latter. However it may be as to the strife between cell and bacillus, the elements of the morbid growth which the chloride of zinc had destroyed are reabsorbed slowly, and finally disappear. The young cells, on the contrary, organize with great activity, and form a firm fibrous tissue, which is met with in appreciable quantity as early as the day next after the injection.

Following the sclerosis in articular fungosities, there is produced a thickening and subsequent condensation of osseous tissue if the periosteum be involved in the reparative process, as was the case in the examples of osteo-arthritic disease cited by the author. The remote results, so far as it is yet possible to judge, show a marked tendency for the sclerosed elements to be replaced by a more pliable connective tissue. As a consequence, the diseased parts regain their suppleness and their form, while locomotor functions are preserved entirely, or at least to the limits present at the beginning of the treatment.

Dr. Lannelongue has been at work for two months on human subjects, and has treated 22 cases, two being of pulmonary phthisis. Of these, 6 are cured, 2 almost cured, 9 are doing well, the remainder not reported upon.

Our exchanges do not yet furnish details of the technique of the method, which does not seem to us a particularly novel or rational one.

A PROPOSED MONUMENT TO AVICENNA.

AVICENNA, "the Prince of Physicians," died some nine centuries ago, aged fifty-eight years. It is now proposed, by the Berlin physicians, to erect a monument over his neglected grave. The proposition is most creditable to the historic sense of the profession, and we hope that the learned gentlemen of Berlin who are initiating the movement will be successful in it.

Avicenna, M.D., was born about 1000 A.D., "in that delightful province of the Sun," Khorassin, and he lived an interesting and variegated life. The doctor was a good deal of a politician, but he did not have a steady "pull" with the authorities. He got himself appointed grand vizier, but was shortly deposed, imprisoned, then reinstated, and finally deposed again and banished the country. He was a gentleman, evidently, of great but erratic talents, and is reported to have looked too much on the wine when it was red in the cup. He wrote a very good treatise on practical medicine, called the "Canon," which was used as a text-book by medical students for several hundred years, and which must have run through a good many editions.

Dr. Avicenna was a brilliant man beyond any doubt, and ought to have a monument. But so, perhaps, ought Rhases, Averrhoes, Albucasis, Avenzoar, and especially Honain, who, for true moral worth, perhaps exceeded them all. If, therefore, we undertake to honor the memory of the Arabs, it might be wiser to have a conjoint tablet and put on all the names. As soon as our American brethren have finished their monument to Dr. Rush, we trust they will take up the Arabs.

OPIUM SMOKING IN PHTHISIS.

DR. JOHN GORDON DILL, in *The Lancet* of July 11th, makes the rather dangerous statement that opium smoking, when done in a certain way, affords great relief to phthisical patients. "My custom," he says, "has been to soak the tobacco in Battley's liquor opii sedativus, choosing this preparation because it contains all the component parts of opium in a fluid form, and to use it when it has dried. I have given this mixture in various proportions, and I think that a useful strength is three fluid drachms of the Battley to one ounce of tobacco; but of course it can be made much stronger than this. I usually advise the patient not to smoke just before eating, and I never in any case tell him how the tobacco is medicated. The most

marked therapeutic effects of smoking opium in this way are that it eases the cough, and acts as an expectorant, "cuts the phlegm," as the patient often expresses it. One poor man assured me that he had not the strength to get up in the morning until he had smoked part of a pipe to relieve his chest. The material which I have collected is not yet sufficiently large to draw any conclusion as to whether opium administered in this form has any specific effect upon the disease, although almost without exception the phthisical patients to whom I have given it have thought that they derived great benefit from its use; nor has sufficient time elapsed, as I have only employed it for two years, to make sure that the improvement which has taken place in any case is permanent. In this connection two sources of error in considering the effects of any treatment upon the course of pulmonary tuberculosis have, I think, been quite left out of sight in the numerous statistics which have recently been published. The first is the fact that tuberculosis is an undoubtedly curable disease in certain cases, and it is quite possible to conceive that a coincidence of the cure and of the particular treatment adopted may explain many excellent results."

Dr. Dill adds suitable words of caution in regard to the dangers which the practice recommended involves, but he is inclined to think that these dangers have been exaggerated.

We are not told whether or not his patients inhale the smoke, but infer that they do not. The point is a very important one in the technique.

MR. BLAINE AND THE MANAGEMENT OF MENTAL DEPRESSION.

Dr. J. M. Taylor has just contributed to the *University Medical Magazine* an article entitled "Hints on the Management of Mental Depression." The article is a suggestive one in connection with the present reports regarding the condition of Dr. Taylor's patient, Mr. Blaine, and we cannot but think that he had that distinguished gentleman much in mind while writing.

We suspect that something of his case is embraced in the following account of "young Mr. B——," of whom, after some preliminary history of excessive devotion to social duties, Dr. Taylor says: "The other factors in this young man's case might be said, in brief, to be an inherited tendency to gout, which showed itself in excessive uric acid, and in acid dyspepsia. There was also, probably as a result of all these things, an increasing sleeplessness, a worried sense of responsibility which led him to feel that he was getting behind in his daily routine and unable to keep up; finally, an exaggerated notion that he might, at any moment, be ill and unable to fulfil his engagements, and the also exaggerated conscientiousness that if he should so fail others would suffer for his neglect. Finally, on two or three occasions a feeling of faintness came on in the street or elsewhere, naturally suspected to be cardiac, and presently there was established a wretched, nervous fear lest he might break down at any moment of some great responsibility and disgrace himself. This went on until he was practically unfit to even attempt the continuance of his old life. Then came the extreme mortification of confessing himself beaten. This superadded chagrin to incapacity, and all was colored by a Spartan desire not to let it be known how he felt. Then I assure you that this young man's condition was most pitiable."

The writer proposes to give some hints on the treatment of hypochondriasis and mental depression, but as a matter-of-fact, he simply shows us that such cases have to be managed rather than treated. The patient needs a person of tact, intelligence, and energy; and one who is not a personal friend or at least an intimate. All these facts are very well known and have often been dilated upon, but Dr. Taylor presents the story anew in an interesting manner.

PRE-COLUMBIAN SYPHILIS.

The growing prospect of a world's fair in 1892 or 1893 arouses an especial interest in things Columbian and pre-Columbian. Possibly among the latter may be classed syphilis. Dr. James Nevins Hyde discusses the question in the *American Journal of Medical Sciences*, and the discussion will, we trust, be continued. America has heretofore accepted too readily the dubious compliment of having bestowed upon civilization the *grosse vérole*. When one recalls what a sty of licentiousness and filth Europe was in the fifteenth century, it seems much easier to suppose that syphilis was bred there than that it was imported. Dr. Hyde, however, takes up mainly the question whether the North American Indians of pre-Columbian times left any bones which show evident syphilitic lesions. A good many so-called pre historic bones showing signs of so called syphilis have been collected. But it has been shown that many of the remains in the Indians' mounds and caves are not pre-historic. Then, so far as the lesions are concerned, it appears to us from the evidence presented that none of them are plainly the results of syphilis. Dr. Hyde reports in detail the results of a microscopical study of two tibiæ from Colorado, made by Dr T. M. Prudden. These showed the presence of a chronic rarefying and formative osteitis and chronic formative periostitis, changes which might be of syphilitic origin, but much more likely were not.

So far as the bones have yet told the story there was no pre-Columbian syphilis.

Its presence will have to be established by further bony studies, as well as by historical, and perhaps philological investigations.

AN INTERESTING HOSPITAL.

For a restful piece of literature we refer our readers to pages 5 and 6 of the Report of the Cook County Hospital, situated in an area annexed to the town of Chicago, Ill. We bespeak special attention to page 5, containing a tabular arrangement of the Medical Boards, of which there are three, viz., the regular, the homœopathic, and the eclectic, all of these being not only full but bulging. Such a happy combination of elements once thought discordant is an object lesson in harmony which the profession may do well to study. One can only regret, in the interests of an even truer catholicity, that the Electro-vitapathists and the Bichloride of Gold Club have not also some representation.

The numerical richness of the medical boards also impresses one as showing a generosity of spirit and an in-

dulgence toward hyperplasia, on the part of the Cook County authorities, not found in less enlightened communities. When it comes to variety and quantity of medical boards, its hospital is going to lead the van of progress untrammelled by hackneyed precedents or the trivial consideration of actual necessity. Thus statistics show that Cook County Hospital admits 375 gynecological cases in one year, for which it provides 7 regular, 1 eclectic, and 2 homœopathic gynecologists. This gives 37½ cases per year, to each visiting professor. Besides this the hospital has 15 surgeons, 13 physicians, and enough oculists, dermatologists, etc., to bring up the total to 47.

For a hospital of five hundred beds this is a thoughtful allowance. We are pleased to note also the names of Mary and Alice among the members of the three kinds of house-staff. Cook County evidently makes no distinction of sex or sect, and seems, indeed, to be a pleasant and instructive type of the liberality and greatness of our modern municipal institutions.

PARANOIA AND THE MILLENNIUM.

A BELIEF that the world is coming to an end within a few years is not evidence of insanity. A good many persons of credulous temperament, limited knowledge, and weak judgment have entertained such beliefs and yet were sane and useful members of society. When such a view, however, is held and advocated by a professor in a great university, who has presumably received a sound and liberal education, and has particularly qualified himself in the exact sciences, the fact is suspicious. When, further, such a man promulgates his views with intense ardor and accompanies his preaching with diagrams and elaborate mathematical tables which a close examination shows are utterly unmeaning and nonsensical, suspicions of insanity ripen to certainty.

Our esteemed contemporary, *Frank Leslie's Illustrated Weekly*, prints and illustrates the views of such a learned and erratic professor in much detail. They are worth studying as most typical and beautiful illustrations of the workings of the paranoiac brain. Similar pictures, tables, and weak attempts at reasoning are seen in every asylum. They illustrate the development of the systematized delusion of which the person in question is a victim.

We do not call attention to the facts thus mentioned because of their scientific interest alone, however. But it so happens that such teachings, issuing as they do from a person who holds a high position as a teacher, may do harm by exciting and disturbing the minds of the uncritical and setting off into a similar mental aberration persons who are ripe for such a disaster.

THE PATHOLOGICAL ANATOMY OF ADDISON'S DISEASE.

THE pathology of Addison's disease has never been very satisfactorily made out. It has been admitted that the supra-renal capsules are generally diseased, but the uniform existence of this is denied; while, on the other hand, the capsules have been found diseased in persons who never had the bronzed skin. Furthermore, even supposing that these organs were uniformly affected, it has been difficult to understand how an affection of such apparently insignificant bodies should give rise to a malignant and progressive constitutional disorder.

A few years ago we called attention to some researches which apparently cleared up this latter point. It was shown that the bodies in question were blood-glands and had the function of selecting from the blood and destroying certain poisonous pigmentary products of metabolism. This function being destroyed, the poison circulated in the system and was deposited in the skin and mucous membranes. The process was similar to that of the thyroid gland, whose destruction led to the deposit of myxomatous tissue and myxœdema.

In the *Revue de Médicine*, for April, 1891, Drs. Alezais and Arnand have gone over the subject of the pathology of Addison's disease again.

They have reviewed the literature and tabulated the post-mortem records in forty-nine cases, including four of their own.

They reach the conclusion that Addison's disease is accompanied almost, if not always, with a pathological alteration of the supra-renal capsules. In the great majority of these cases this alteration is of a tuberculous nature.

A lesion of the parenchyma of the gland itself cannot cause the general disease. It is only when the process has extended further and involved the nerves and cells supplying the capsule (peri-capsular ganglia) that serious symptoms supervene. The lesion may even be limited to these nervous structures, the gland itself not being involved, yet the bronzed skin will develop. This latter fact explains the alleged absence of supra-renal disease reported in some autopsies.

News of the Week.

The American Electro-therapeutic Association will hold its first annual meeting at the hall of the College of Physicians, corner of Locust and Thirteenth Streets, Philadelphia, Pa., on Thursday, Friday, and Saturday, September 24, 25, and 26, 1891, under the presidency of Dr. G. Betton Massey. Physicians interested in the discussion of electricity in medicine are invited to attend without further notice.

HORATIO R. BIGELOW, M.D.,
Chairman Executive Council,
WILLIAM H. WALLING, M.D.,
Secretary,
2005 Arch Street, Philadelphia.

Nocturnal Enuresis.—A correspondent of the *Lancet* advises for this trouble that the old-fashioned remedy of a birch-rod be employed shortly before the boy is put to bed; six not severe strokes, repeated for two or three nights at the outside, will effect a cure. The birching should be regarded by all parties not as punishment for the past, but as treatment for the future—a very different thing. The *rationale*, he thinks, is, 1, that it wakes up a desire to avoid wetting the bed; 2, that it draws the blood to the surface for a few hours, and thus relieves the pelvic organs; 3, that it stimulates the lumbar centre, controlling micturition through the nerves distributed to the upper gluteal region; and 4, that it prevents the patient lying on his back.

Medical Congress in Cuba.—A medical congress will be held in Cuba in 1892. The following subjects will be presented for discussion: "Topography and Medical Statistics in Some One Locality in the Island of Cuba;" "Etiology, Prophylaxis, and Treatment of Yellow Fever;" "Pathology of the Liver in Hot Climates;" "Is Malaria the Cause of the Malignity of Fevers in Havana?" "Scheme for the Improvement of the Sanitary Condition of Havana."

A Memorial to Matthews Duncan.—It has been proposed, by the friends and pupils of the late Matthews Duncan, to perpetuate the memory of the great obstetrician by founding at St. Bartholomew's Hospital a Matthews Duncan medal or prize in obstetrics or gynecology, and the erection of a bust, to cost from $6,000 to $7,000.

A Worthy Institution.—An announcement appears in a Montana paper that Dr. H. F. Musser has recently opened a hospital, where the unfortunate rich can find excellent treatment and comfortable quarters.

Medical Law in Nebraska.—A law which goes into effect next month provides for a State Board of Health, to consist of the Governor, Attorney-General, and Superintendent of Public Instruction, who shall appoint four secretaries, who shall be graduated physicians of at least seven years' practice. It is made unlawful for any person to practise medicine, surgery, or obstetrics, or any of the branches thereof, in the State, without first having obtained and registered the certificate provided for by the act; and no person shall be entitled to the certificate provided for unless he shall be a graduate of a legally-chartered medical school or college in good standing; said qualifications to be determimed by the board. The penalty for infringement of the law is a fine of not less than fifty nor more than three hundred dollars.

A Bust of Hebra was unveiled on June 14th in the arcade of the University in Vienna. An address was delivered by Professor Kaposi.

The American Public Health Association, constituted of representatives of the United States of America, the Dominion of Canada, and the Republic of Mexico, will hold its nineteenth annual meeting at Kansas City, Mo., October 20, 21, 22, 23, 1891. The following subjects will be considered: 1. "Sanitary Construction in House Architecture; *a*, Heating; *b*, Lighting; *c*, Drainage; *d*, Ventilation." 2. "Railroad Sanitation." 3. "Meat-supplies." 4. "Milk-supplies of Cities." 5. "Arsenical Papers and Fabrics." 6. "Isolation Hospitals for Infectious Diseases in Cities." 7. Papers upon any of the subjects upon which special committees have been appointed. 8. Papers on miscellaneous sanitary and hygienic subjects.

The Inspection of Hog Products at the Stock Yards is in operation, and in a short time every hog killed in Chicago will, it is hoped, bear the government stamp attesting its freedom from trichinæ. At present thirty microscopists are employed, and a piece of the diaphragm is the part usually selected. Already many hogs have been condemned, though only a small portion of the daily output is submitted to such examination. The moral is obvious.

Cook County Hospital.—The County Commissioners have appropriated eighty thousand dollars for two new pavilions at the Cook County Hospital, thirty-five thousand dollars for a morgue, forty thousand dollars for a detention hospital for the insane, and forty thousand dollars for detached wards for contagious diseases. Plans are perfected, and building will go rapidly on, that for the detention hospital and morgue being well under way.

The Oakland Medical Club, of Chicago, is a new organization of physicians with a strong social bias and a purpose to inculcate the best friendly relations among its members. They meet once each month at table and indulge in a mildly professional discussion. The "Sunset Club" has been imitated in a declaration of principles. The requirements for membership, from the following official statement, may appear a trifle broad. Object: The Oakland Medical Club is to foster rational good fellowship and tolerant discussion among physicians. Requirements for membership: Any genial and tolerant physician may become a member on approval of the Executive Committee. Programme: A dinner the last Friday of every month, at eight o'clock, followed by short talks upon a topic previously announced by the Secretary. Expenses: The only expenses incident to membership in the Oakland Medical Club are an annual assessment of one dollar for stationery, printing, etc., and the price of each dinner partaken of. Guests: Members are privileged to bring guests to the meetings, provided notice is sent to the Secretary in time to prepare for their entertainment. The experiment will be watched with interest.

Professor Koch Resigns.—It is stated that Koch has resigned all his official positions. This, we are told, is not on account of the failure of his tuberculin, but because he is upon the point of accepting a new office, that of Director of the Institute of Infectious Diseases, which has been organized by the German Government. It is also stated that the Academic Senate will bestow an honorary office upon Professor Koch, and that this will permit him to lecture whenever and wherever he pleases.

The University of Vermont.—Dr. Condict W. Cutler, of New York, has been appointed Professor of Skin and Venereal Diseases, to succeed Dr. R. W. Taylor, who has resigned.

Charge Against Professor Bergmann and Dr. Hahn.—It is stated that Professor Bergmann and Dr. Hahn have been ordered to answer within twenty-four hours the charges of having inoculated pauper patients with cancerous matter.

The Progress of Cholera.—Cholera is still spreading in Abyssinia, the disease making great progress at Massowah, where not only natives but some Europeans have been attacked. The heat is stated to be excessive. It is also alleged that some cases have occurred among pilgrims at Mecca, and that detention at Red Sea ports is already being arranged for pilgrims before returning to Egypt or passing up the Suez Canal. The occurrence of the disease at Aleppo has led to quarantine being imposed by the Austrian Government on all arrivals from Syrian ports between Karatash and Latakia, and the same regulation will apply to arrivals from Red Sea ports.

Donation to a Hospital.—The Ospedale Maggiore at Milan has just received from the Duchessa Eugenia Litta Bolognini, who recently lost her husband and her second son, a donation of 500,000 francs—the proceeds of the sale of her jewels. The special department of the hospital thus munificently endowed is that of the Children's "Clinico-Chirurgico," or ward for the surgical lesions of children, and is intended as a memorial to the young Duca Litta Bolognini, prematurely deceased.

International Congress of the Red Cross.—The Red Cross Associations organized in the European States which have signed the Geneva Convention have had the laudable custom of holding international meetings, at which the interests of the sick and wounded in war are practically considered, and the arrangements for a more effective and harmonious furtherance of those interests discussed and agreed upon. The first of these congresses was held in Paris in 1867, the second at Berlin in 1869, the third (*longo intervallo*) at Geneva in 1884, and the fourth at Carlsruhe in 1887. At this latter it was resolved that in future the congresses should meet every five years, the *locus in quo* of the succeeding congress being then undecided. The International Committee of Geneva has just proposed that the congress should hold its fifth meeting in Italy next year, and the Central Italian Committee, duly notified of the fact, has completed negotiations with the Government, according to which the seat of congress will be Rome, and April or May, 1892, the month in which it will assemble.—*Lancet.*

The "Ripper" Case.—In a recent issue of *The New York Medical Journal*, Dr. Austin Flint describes the questions with which the medical experts were confronted and the grounds on which they swore that various blood-stains contained intestinal matter from the same person. These grounds were chiefly that all the stains contained bilirubin and tyrosin, substances which, it is asserted, would not appear in the large intestine.

Growth of Interest in Hygiene.—The growing interest of the public in hygiene is shown by the recent report of the Secretary of the Maine Board of Health. A dozen years ago local boards of health were almost unknown in the State; now there are reports from four hundred such boards out of a total of four hundred and thirty towns. As a result of this hygienic organization, outbreaks of diphtheria, scarlet fever, and typhoid fever have, in almost all instances, been confined to the primary cases or the first family the past year; while one hundred and twenty local reports expressly state that no cases of any one of these diseases occurred during the twelvemonth, and forty others fail to mention any such cases.

Patent Medicines in the United States.—In an address, recently delivered by Dr. John S. Billings, "On American Inventions and Discoveries in Medicine, Surgery, and Practical Sanitation," he stated that between the years 1880 and 1890 the number of patents granted for medicines in the United States was 540. According to the census of 1880 there were in the States 592 establishments devoted to the manufacture of drugs and chemicals, the capital invested being $28,598,458, and the annnal value of the product $38,173,658. In addition to these there were 563 establishments devoted to the manufacture of patent medicines and compounds, the capital invested being $10,620,880, and the annual value of the product $14,682,494. Dr. Billings went on to say: "We are a bitters and pill-taking people. From the commercial and industrial point of view, the great importance of patent and proprietary medicines is connected with advertising The problem is to induce people to pay twenty-five cents for the liver-encouraging, silent-perambulating, family pills, which cost three cents." America is as pre-eminent in the number of its dyspeptics as it is in the number and variety of its medical degrees, and the philosophic mind might not unprofitably exercise itself in solving the prob lem whether the national indigestion is the cause of the pill-taking, or the pill-taking is the cause of the indigestion.

Post-Graduate Institutions Seem to be Getting Ahead.—Dr. W. S. Christopher has resigned the chair of Theory and Practice of Medicine in the University of Michigar to take the chair of Diseases of Children in the Chicago Polyclinic.

The Health Officer of Washington.—Quite a contest has been going on in Washington, D. C., over the position of Health Officer of the District. Dr. Smith Townsend, who has discharged the duties of this office for some years with eminent satisfaction to many people in the District, has been requested by the Commissioners to present his resignation. This Dr. Townsend refused to do. The Commissioners have therefore removed Dr Townsend from said office and have appointed to this position Dr. C. W. R. Hammett, a well-known physician of that city. The cause of Dr. Townsend's removal has not been stated, but it is intimated that his removal was made out of deference to political considerations.—*Maryland Medical Journal.*

Army and Navy Medical Candidates.—During the past ten years 384 candidates have presented themselves to the Army Boards, of whom 76, or 22.3 per cent., passed, and 31 were rejected for physical disqualifications, and the remainder failed to pass the medical examination. During the same period, 237 candidates presented themselves before the Navy Board, of whom 55 were approved and passed, 75 rejected for physical disqualification, and the remainder either withdrew or failed to pass.

The British Medical Association in Canada.—Mr. Ernest Hart, the editor of the *British Medical Journal*, has recently made an extended visit to Canada, and during his stay there has established three new branches of the British Medical Association, one in Toronto, one in Montreal, and one in Winnipeg. The association has now 13,500 members, of which number 2,000 reside in other parts of the Empire than Great Britain. It has a reserve fund of over $200,000. Its Colonial membership is said to be largely increasing.

Dr. W. H. Taylor, one of the most prominent young physicians in New Bedford, Mass., and medical examiner for that district, died on July 20th. He was a son of James Taylor, Collector of the Port.

Leidy Chair of Anatomy.—It has been decided to raise a fund for the endowment of a Leidy Chair of Anatomy in the University of Pennsylvania. It is proposed also to establish and endow a Leidy Memorial Museum.

Society Reports.

ONTARIO MEDICAL ASSOCIATION.

Eleventh Annual Meeting, held at Toronto, July 3 and 4, 1891.

W. H. MOOREHOUSE, M.D., PRESIDENT, IN THE CHAIR.

(Special Report to the MEDICAL RECORD.)

AFTER presentation of the reports of the preliminary committees the regular work of the session commenced with

Carcinoma, by DR. TESKEY, of Toronto, who delivered the Address on Surgery, taking for his subject the etiology and treatment of cancer. He briefly referred to the two theories as to the cause of cancer: 1, Considering it to be an abnormal growth of epithelium, the result of the action of an irritant; 2, that it is due to a special microbe. In the development of carcinoma, irritation, he believed, played an important part, and in many instances inflammatory products, at first simple in character, by prolonged irritation took on a malignant form, the lymphatic glands were gradually involved, and the tumor ultimately became a malignant one. He believed it quite possible for the changed character which the epithelial cells possess to be induced by simple irritation, and cited examinations of doubtful growths wherein many cells possessed malignant characters, while others were perfectly normal. He spoke of the tendency in some cases to natural cure by sloughing, and cited a case of cancer of the breast where a suppurative process appeared to arrest the growth and development of a tumor which to all appearances was cancerous. He had had the same under observation for seven years, and so far there was no evidence of a return of the malignant action which at first characterized the growth. As to the method of dealing with cancer by operation, one would conclude that if an abrasion, fissure, or ulcer resists treatment and will not heal after reasonable time, say two months, free excision should be performed. If we have a cancerous tumor definitely localized, we should remove it and cut wide of the disease. In cases in which the glands are involved secondarily, it seems useless to attempt operation; the hemorrhage occurring during the operation lessens the resisting powers of the patient, the disease progresses still more rapidly, and a fatal termination is hastened.

DR. WISHART, of London, considered the cancerous process clearly allied to chronic inflammation, with the difference, however, that while inflammation exhibited a tendency to recover, in cancer there was a tendency to secondary growths and a progressive increase in the size of the tumor, which was not affected by palliative treatment. He regarded local injury as a cause of many cases of cancer. In regard to the theory of "high living" being a cause of the disease, he said that it was noteworthy that in Africa, where the inhabitants live on simple food and take regular exercise, there is little or no cancer. If the disease were hereditary the whole human race would probably be affected by this time. In regard to the operation for removal, he emphasized the importance of removing every portion of the diseased tissue.

DR. GROVES, of Fergus, thought that while heredity must not be looked upon as a cause, yet there is apparently transmitted in some families a weakness in the resisting power of the individual. Irritation alone is not sufficient. He thought pigmentation and similar changes in cell-elements might operate as a predisposing cause.

DR. SENN, of Chicago, said that it was a disgrace to modern surgery that we know little more about this subject than we did twenty years ago. All evidence was, he considered, against the theory of irritation or local injury being a cause sufficient to produce carcinoma. He dwelt upon the theory of Cohnheim that embryonic elements remaining among the tissues accounted for the origin of cancer. No degree of irritation will cause carcinoma if the necessary condition of the cells be absent. The individual must be born with these embryonal cells, and although he might go through life without developing cancer, it was because the exciting cause had not presented itself. In treatment he advocated early and thorough operation. No credence must be given to the idea that cancer tends to a spontaneous cure, the investigations of Virchow and others having clearly refuted such theories.

Bone-grafting.—DR. W. OLDWRIGHT, of Toronto, presented a patient illustrating treatment by Senn's decalcified bone-filling. While the treatment had not been a complete success in that the wound did not heal by the first intention, the progress of the case furnished an opportunity of observing the process of granulation tissue growing into and incorporating itself with the decalcified bone. The patient, aged nineteen, a cattle drover, had slipped and injured his leg. There was no evidence of fracture, but a marked hardness over the tibia which continued for eight months, when an operation was performed for the removal of dead bone. A considerable quantity was removed, leaving a large cavity. This was carefully treated with a twelve per cent. solution of chloride of zinc, followed by bichloride of mercury, 1 to 500. The bone chips were cut into strips and packed into the cavity after first being dusted with iodoform. The bone chips used were from the tibia of an ox, and were cut in pieces two inches long and then placed in hydrochloric acid to decalcify. The acid was removed by washing in caustic potash, and subsequently the chips were preserved in 1 to 500 solution of bichloride of mercury in alcohol. Before using the chips they were washed in a weaker solution of bichloride and then powdered with iodoform. He considered that while the wound in the case presented did not heal by first intention, the process of reproduction of new bone in the cavity was much facilitated.

DR. SENN said that he thought the partial failure in this instance was either due to the bone cavity not being rendered thoroughly aseptic, or more probably, the parts were in such a diseased condition that reparative processes were slow to occur. The bone chips were not intended to replace bone directly, but merely to act as a temporary absorbable tampon. He urged the importance of making the operation thorough, using the chisel, never the trephine, freely until the whole cavity is exposed and carefully scraped. Next disinfect the cavity with chloride of zinc solution, or better, because it permeates more deeply, the peroxide of hydrogen. Then irrigate with perchloride of mercury and dust with iodoform. After packing in the chips, which have previously been rendered thoroughly aseptic, the periosteum must be stitched over, and if an antiseptic condition has been secured granulation-tissue will gradually be substituted for the chips. Many make a mistake in believing that the chips are used for the permanent replacement of the new bone, but this is not so; they are replaced by granulation-tissue in the first place, an early definite healing takes place, and eventually regeneration of the entire bone is brought about.

The afternoon session was opened by Dr. W. H. MOOREHOUSE, of London, in the

President's Address.—After giving a *résumé* of the history of medicine from the time of Hippocrates to the present time, touching briefly the salient features of the different epochs, he dwelt on the advantageous position of medicine at the present day, and referred to the high standard of medical education in Canada. The progress made in promoting the establishment of the Ontario Medical Library was alluded to, and the growth of the library was such that the members of the profession throughout the Province might well be proud of the success of the efforts made to provide such a literary storehouse, to which each member of the profession might resort or apply for books of the highest value for reference in every department of

medical science. The question of club practice was touched upon in terms of condemnation, and the strongest disapproval was expressed against this species of practice, so derogatory to the profession. He considered that any member of the Association who persisted in this baneful practice should be held accountable for such conduct. He deprecated in strongest terms the habit of a few practitioners who consider it proper to advertise their specialties in the public press. This was in direct violation of the Code of Medical Ethics, and must be discouraged. In conclusion he expressed the pleasure it was to welcome such a number of American delegates, whom he greeted in the most cordial terms.

Intestinal Anastomosis.—Dr. N. Senn, of Chicago, was introduced and read a paper on this subject in which he gave a demonstration of his method of operating.

The Cardiac Phenomena of Rheumatism.—Dr. A. McPhedran, of Toronto, opened the discussion on medicine. He prefaced his remarks by claiming that the heart affections are actually an essential part of the disease, and must be considered in association with the other and more usually manifested phenomena of rheumatism. The cardiac complication might appear alone as in the case of children, or it might be combined with other symptoms. Generally in the adult there was a connection between the severity of the symptoms and the frequency of the heart affection. The younger the subject, the more liable was the cardiac complication to be manifest. In children one to ten years of age, eighty-three per cent. have heart lesions; from ten to twenty years, sixty-nine per cent.; from twenty to thirty years, fifty-one per cent.; from thirty to forty years, thirty per cent., and from forty to fifty years, twenty-one per cent. From these figures it was shown that in early life rheumatism nearly always attacks the heart. Many reasons have been given to explain why the heart was chosen as the point of attack. Anæmia was given as one of the causes, and was supported by the frequent examples of rheumatism occurring in young females, so often subject to anæmia. Endocarditis is the most common form, and the mitral valve is most often involved. In children the cardiac phenomena, at first mild, soon return and prove fatal, the lesion increasing with each attack. The inflammatory process is circumscribed in the endocardium because of its want of vascularity. The mitral valve is most affected because its central parts have a good blood-supply. The aortic valve has not such a good vascular supply, and is therefore more apt to escape. The cardiac murmur, according to Sibson, is not the sign of a commencing endocarditis, but occurs when the inflammation is passing off. The first sign of mitral obstruction is a seeming reduplication of the first sound, heard only at the apex; of mitral incompetence, prolongation of first sound heard at the apex. Murmurs occur earlier in rheumatism than in such diseases as typhoid. Pericarditis and myocarditis are often overlooked and misinterpreted; they occur most often in first attacks, severe attacks, and between the ages of fifteen and twenty-five years. Severe and fatal cases may occur without any symptoms. The immediate prognosis of the cardiac lesion is favorable, because in young children, in whom the lesion is most apt to occur, compensation is more quickly established and is more complete, therefore it is but seldom that cyanosis or dropsy occurs. In older patients the prognosis depends on the extent of the sclerotic and atheromatous changes. In the well-to-do, the prognosis is better, because they are subject to less exposure and to less violent exertion. As regards treatment, while we cannot prevent rheumatism, we can save the heart in many cases by arresting the rheumatic process with alkalies or the salicylates, by promoting exertion to purify the blood, by good nourishment in the form of light liquid food, and by rest, particularly in children. Great caution must be taken in the use of alkalies in anæmic cases, for they, by increasing the anæmia, may cause the cardiac lesion. In such cases iron is of greatest value.

Dr. Macullum, of London, said that the endocardium was subject to the same sclerotic changes as the aorta; these were seen chiefly at the valves, but might exist on any part of the endocardium. The myocardium might also be affected, but it is impossible to express an opinion as to its condition save after microscopical examination. The dilatation of the heart was due, not to want of contractility, but of elasticity. Rheumatic patients should have special attention paid to the heart, owing to the round-cell infiltration and vascularization of the endocardium. He believed that for a year after convalescence the patient should be put on a course of alkalies, iodide of potash, and iron, the iodide of potash given for the same reason as in aneurism.

Dr. Charles Sheard, of Toronto, did not think that second attacks of rheumatism were more likely than primary ones to produce cardiac lesions. A slight swelling, a tumefaction as it were, of the valves, he considered the real cause of the first appearance of the cardiac murmur. Each recurring attack increased the deposition on the valves. The heart was best treated by rest. Iron is useless in the anæmia of endocarditis, unless the patient was enjoying perfect rest. He believed this to be true of the use of iron in all cases of anæmia, due to any cause whatsoever. Time and again he had seen this in anæmic girls. He gave his preference to salicylates, but would use alkalies for twelve months after the attack.

Dr. McPhedran, in closing this interesting discussion, first disputed the usefulness of iodide of potash in the cardiac diseases of rheumatism, on account of its tendency to produce anæmia. He did not think the tumefaction referred to was sufficient cause for the murmur. His experience, substantiated by post-mortem evidence, was that pericarditis, though often overlooked in diagnosis, occurred more generally than was thought to be the case.

Alcohol in Medical Practice.—Dr. Arnott, of London, asked for permission to introduce the following resolution:

"That in view of the great amount of misery, degradation, and disease that has come upon our race from the use of alcohol, it is the opinion of this Association that it should be prescribed as seldom as possible, and with a due sense of responsibility."

The discussion following this resolution was quite animated, and the general opinion was that as much care was shown in prescribing alcohol as any other medicinal agent, and by an almost unanimous vote it was resolved to lay the resolution on the table.

Myoma of the Uterus.—Dr. Eccles, of London, opened the discussion on "Obstetrics and Gynecology" by reading a paper on this subject. The paper was an able presentation of the subject, with special reference to the most improved methods of treatment for the different varieties of tumor.

Dr. A. Macdonald, of Toronto, contributed to the discussion which followed.

Injuries of the Vaginal Outlet Occasioned by Parturition.—Dr. Howard Kelly, of Baltimore, contributed a paper on this subject. He thought that in considering the anatomical features of the vaginal outlet the physiological factors had been lost sight of. The anterior fibres of the levator ani muscle, which supports the vaginal outlet, extend to and are especially related to the support of the sides of the rectum. He distinguished between the different grades of injury to the vaginal outlet during parturition. 1. Begins at the fourchette and breaks down the lax tissue. This does not in any way affect the supporting structure of the vaginal outlet, and was therefore unimportant as far as the support goes. 2. A tear running up one of the sulci of the vagina, tongue shaped, into the vagina. This resulted from the head and shoulders of the child tearing up the tissues at the side of the levator ani. The important part of the tear lies within the vagina. This injury, which often escaped notice, should be sought out and treated at once. Bring the patient to the edge of the bed and get a thorough exposure of the

wound. Silk sutures are best, the first one passed must be in the upper angle of the wound; one or two sutures within the vagina are sufficient, and they must be passed so that the lowest and deepest part of the suture will be nearer the operator and the vaginal outlet than will be the point of entrance or exit; this tucks up the tissue in the proper manner. The common method is apt to leave a pocket or sac in the vagina, and the outlet is not properly supported. The old method also was to pass the sutures on the outer or skin surface first; this gave a good skin perineum, but a great wall is left within the vagina for secretions to collect. 3. A degree of tear which involves the integrity of the bowel, the rupture passing through the sphincter and up the recto-vaginal septum to a variable extent, and involving a tear of the levator ani fibres. This must be closed in two stages—suturing the bowel first, either by continuous or interrupted catgut sutures deeply placed. Then pass one or two silk sutures, passing them well back so as to afford good support. Silk was better to stand pressure than catgut. Then complete the operation by the superficial sutures as described, then the skin sutures. A well-performed immediate operation always succeeds in the absence of puerperal fever. It is always to be preferred; the patient is relieved from the discomfort of a second operation.

There are two important secondary operations which we have to deal with: 1, A complete tear through the sphincter; 2, where we have relaxation of the vaginal outlet.

Reference was next made to the condition known as relaxation of the vaginal outlet, which was sometimes overlooked. The anterior, posterior, and lateral vaginal walls look as if they might afford support, but to the simple touch they yield, showing that they fill up without supporting the vagina. Relaxation suspected is developed on putting the patient under an anæsthetic. Treatment must be by first denuding in the form of two triangular areas within the vagina on each side, and applying sutures in the manner described for recent tears.

Dr. Temple, of Toronto, in discussing Dr. Kelly's paper, said that he had once looked upon the perineum as a support for the uterus, but now he looked upon it as a support for the rectum and bladder. In repairing a recent perineal tear his practice had been to pass the sutures from without inward. The object in view has always been to carry the curved needle as far outward as possible, in order to get hold of the end of the divided muscle. So far his results have been satisfactory. The operation described by Dr. Kelly, the bilateral one, is an old method. If possible, remove very little tissue, as we have no more tissue than we want to restore the normal condition of the parts.

Dr. Kelly stated that whereas the genius of the whole method of operating comes from Emmet, yet recent modifications of original methods have proved of considerable value. He did not agree with Dr. Temple concerning the removal of tissue; in relaxed outlet we have more tissue than we have in the normal condition, and this must be removed.

Dr. R. A. Reeve, of Toronto, opened the discussion on ophthalmology by reading a paper on "Points of General Interest in Otology." The discussion was continued by Drs. Osborne, of Hamilton; Moorehouse, of London; and Birkett, of Montreal.

Dr. A. Stowe Gallen read a paper entitled "Medicine from a Sociological Point of View."

The Practical Bearings of Color-Blindness.—Dr. G. S. Ryerson presented a paper on this subject. He held that the examinations, as conducted for the purpose of testing for color-blindness, were often inefficient, because such conditions of the atmosphere as fog, mist, steam, etc., obscure vision, and lead to considerable variation in the powers of perception in different individuals. The test ought therefore to be applied under these conditions. People should be examined, because disease or injury may lead to impairment of the function in question. In conclusion he introduced a resolution which was passed, calling the attention of railway authorities to the serious consideration of this subject.

The report of the Committee on Necrology, referring to the deaths of several members during the year, was presented.

The Treasurer's report was received, and proved quite satisfactory.

By the report of the Nominating Committee the following officers were elected—*President*, Dr. R. A. Reeve, of Toronto; *Vice-Presidents*, Dr. F. LeM. Grassett, of Toronto; Dr. A. Groves, of Fergus; Dr. H. J. Saunders, of Kingston; Dr. G. S. McGeough, of Chatham; *General Secretary*, Dr. D. J. Gibb Wishart, of Toronto; *Assistant Secretary*, Dr. F. P. Cavan, of Toronto; *Treasurer*, Dr. E. J. Barrick, of Toronto.

MEDICAL SECTION.

Dr. Eakins, of Belleville, Chairman; Dr. Thistle, of Toronto, Secretary.

The Diagnosis of Typhoid Fever.—Dr. J. E. Graham, of Toronto, presented a paper with this title. He first alluded to the importance of early and correct diagnosis in this disease, in the proper management of which so much depended. The differential diagnosis of tubercular meningitis in children, acute tuberculosis, and typhoid, was carefully pointed out and cases cited to demonstrate the different points alluded to. The renal mask sometimes assumed by the disease was carefully referred to, and the importance of distinguishing from nephritis was emphasized. The relation of typhoid to pneumonia and the presence of the latter, particularly in the earlier stages of the fever, was illustrated by brief clinical records. To distinguish malarial remittent fever from typhoid was sometimes difficult, but careful examination of the blood, taken during the paroxysm, with a high-power microscope, would reveal the presence of the plasmodium malariæ. Pyæmia was also sometimes difficult to distinguish from typhoid. The presence of bacilli in the blood, the use of Ehrlich's urine test, would help in the diagnosis. The urine or blood from the roseola might be examined for the typhoid bacilli. Puncture of the spleen of a typhoid patient to procure a sample of blood was not permissible, although it had been done by several German physicians.

Dr. McPhedran, of Toronto, after alluding to the difculty in distinguishing between typhoid and tubercular meningitis in children, referred to the abortive cases of what was seemingly typhoid, but where Ehrlich's test failed. The discussion was continued by Dr. Sheard, of Toronto, and others.

Is Alcohol a Stimulant?—Dr. H. Arnott, of London, deprecated the habit of many practitioners in prescribing alcohol as a stimulant, and expressed his conviction that mistaken ground had been taken by the profession in regard to the value of alcohol as a therapeutic remedy to combat disease. In the brief discussion which followed, the strongest exception was taken to the views expressed by the paper.

Epileptic Insanity.—Dr. I. Millman, of Toronto, followed with a paper on this subject. After pointing out the different forms of epilepsy, with the symptoms characteristic of each, he referred to the importance of recognizing that form known as petit mal, which too often escaped notice and treatment. He instanced important cases where he believed crime had been committed while suffering from the influence of petit mal, although the public might be slow to believe the culprit was not responsible for his deed. He placed a high value on the efficacy of the bromides in epilepsy, and sometimes combined cascara sagrada to overcome the tendency to constipation in the use of the former.

A Narrow Prepuce and Preputial Adhesions in Childhood.—Dr. R. W. Bruce Smith, of Seaforth, narrated histories of some cases occurring in his practice, in which convulsions were quite frequent despite the use of bromides, etc. The children had apparently become chronic epileptics. After dilatation in one case, and circumcision in another, the convulsions disappeared completely. In each case the glans penis was firmly bound down by the closely adherent prepuce, and behind the glans was found a hard, foul smegma which had doubtless been a constant source of irritation. Reference was made to other cases of the same nature which Dr. Smith had reported at a previous meeting, which have continued to do well and have had no return of the distressing nervous symptoms, complained of. He urged the importance of careful examination of the genitals in boys manifesting nervous symptoms, and while deprecating any operation where the cause was due to some lesion in the brain or spinal cord, he expressed the conviction that frequently a causative relation might be traced between certain distressing nervous phenonoma and an abnormal condition of the penis.

Dr. Howitt, of Guelph, in the discussion which followed related several interesting cases which had come under his observation, of an exactly similar character, and which had been relieved in the same way.

Dr. A. B. Osborne, of Hamilton, read a paper on "Pathological Weeping."

Phlegmasia Dolens.—Dr. McWilliams, of Thamesford, presented the histories of five cases of this affection treated chiefly by salicylate of soda, in which recovery had occurred more quickly than usual.

Dr. Adam Wright also read the history of a case of the same disease. He considered the salicylate of soda a valuable remedy, but found the weakness and depression of septicæmia contra-indicated its use. His great objection to it was the nauseating effect it produced on the patient. Opium, while harmful in cases of septicæmia, was, he thought, the best remedy to quickly relieve the pain of phlegmasia dolens. Purgation by small doses of Epsom salts and supporting tonics was the treatment he would recommend. In conclusion Dr. Wright emphasized the importance of observing the strictest antiseptic precautions in the practice of obstetrics, and with such strict precautions expressed the opinion that the diseases of the puerperal period would seldom occur.

Dr. Barrick, of Toronto, considered that opium should be the mainstay in phlegmasia dolens.

Dr. Cronyn, of Buffalo, while favoring the use of the salicylate of soda, said its nauseating properties might be greatly lessened, if not entirely removed, by combining it with the aromatic spirits of ammonia and Battley's solution of opium.

Dr. J. Gardiner, of London, presented a paper on "Pelvic Cellulitis."

Dr. H. A. Macallum, of London, read a paper on "Some Points in the Pathology of Kidney Disease," which was discussed by Drs. John Caren, McPhedran, Sheard, J. E. Graham, and others.

SURGICAL SECTION.

Dr. Grassett, of Toronto, Chairman; Dr. Primrose, of Toronto, Secretary.

Early Resection vs. Conservative Treatment in Coxitis.—Dr. H. Mynter, of Buffalo, N. Y., read a paper with this title, and was followed by Dr. G. A. Bingham, of Toronto, with one on "The Surgery of Tuberculosis."

Dr. Mynter commenced by giving a history of the nature and symptoms of the disease, and discussed the advantages of the different forms of treatment, emphasizing the importance of early operation as the only means by which the progress of the disease might be arrested.

Dr. Bingham referred to the importance of early diagnosis in tuberculosis. So long as the disease does not proceed unfavorably, rest is the chief thing. Caseation may, however, occur, and operation becomes necessary; the disease must be entirely eradicated, whatever method we employ. We are led to conclude that in certain cases rest, constitutional and hygienic treatment, will prove efficient. If caseation has occurred and the disease has extended beyond the articular ends of the bones, erasion should be done. If confined to the synovial membrane aspiration will suffice, and if the disease is very definitely localized it may be removed by the sharp spoon. Early operative interference undoubtedly shortens the suffering.

Dr. McFarlane, of Toronto, in the discussion following the above papers, referred to the dispute as to the starting-point of the disease; as to whether it was in bone, cartilage, or synovial membrane. In the hip the disease might first arise in the ligamentum teres. He alluded to a case at present under his care in Toronto General Hospital, a boy suffering from acute osteo-myelitis which began in the ankle. The tender and swollen part had been cut down upon, and the diseased bone scraped out, and very shortly afterward a similar condition developed below the knee-joint, which was similarly treated. The child was now improving. Conservative treatment would often arrest tubercular disease, and therefore he was not inclined to open the joint early. Complete excision was, however, safer than erasion, because of less likelihood in the former of any diseased tissue being left behind.

Dr. B. E. Mackenzie, of Toronto, narrated the case of a small lad in whom he had successfully removed a small tubercular focus from the head of the tibia. The joint trouble usually arises in the bone. True conservative treatment is that of rest for the part when the nidus is confined to the bone, rather than after the joint has become affected. Referring to a case mentioned by Dr. Mynter, he thought it unlikely that operation could be deemed necessary four weeks after the commencement of the tubercular inflammation. Fixation of the joint may be complete, and at the same time the patient may be allowed to move about. Statements of cases dismissed as "cured" in two or three weeks, are fallacious. He did not consider a case could be considered as cured until two or three years have elapsed. Care must be shown in providing proper mechanical apparatus after operation, in order to prevent relapse.

Dr. Bingham, in closing the discussion, spoke of the confusion in the minds of some as to the meaning of a "cure." A tubercular focus may become encapsuled and lie quiescent, but it is liable at any time to light up to activity.

Dr. Burt, of Paris, read a paper on "Short Notes on Injuries of the Skull, and Epithelioma of the Larynx."

Dr. Primrose, of Toronto, presented a paper on "Fatty Tumors in the Inguinal Canal."

Lithotomy.—Dr. Grassett, of Toronto, then followed with a paper on this subject. He discussed the advantages of the different methods of operation, and thought the dangers in the lateral operation had been exaggerated. His experience had been quite satisfactory with the lateral incision, and while the prospect was that in the future the supra-pubic operation would be the more popular, the results with Toronto surgeons had been favorable to the lateral method. He related several exceptions where the supra-pubic was considered the safer, and in the cases of large calculi there was more room with that operation. Improved methods of diagnosis, however, rendered the early recognition and treatment of calculus such that much less time was lost than formerly in giving relief in these cases.

Dr. Holmes, of Chatham, said he had hitherto been satisfied with the results in the lateral operation.

Dr. Eccles, of London, thought that the recent advance in abdominal surgery had done much to develop, and perhaps popularize, the operation of supra pubic lithotomy. He narrated the histories of several interest-

ing cases in which he had performed that operation for the removal of calculi.

Digital Exploration of the Female Bladder.—Dr. James F. W. Ross, of Toronto, presented a note on this subject. The method advocated was by the use of the little finger, the other fingers being flexed on the palm, the patient lying on the back with the limbs drawn upon the abdomen. The urine was first drawn off. If the tip of the little finger would not readily enter, rapid dilatation with Ellinger's or Palmer's cervical dilator to a very limited extent might be secured. The pain was not excessive. By this method the little finger could be passed into the bladder, the orifices of ureters be felt, and thorough exploration of the bladder secured.

Dr. Howard Kelly, of Baltimore, stated that he had practised that method for several years. The little finger, as stated by Dr. Ross, is preferable to the index-finger. If the index-finger be introduced with the pulp down the second finger strikes against the pubic arch and is limited in that way; the little finger, however, introduced in the same way will permit of invagination of the soft tissues by pressure of the other fingers, and thus length is added to the digit. The tactile sense seems sufficiently acute in the little finger. Dr. Kelly said he often made two small lateral clean incisions at the meatus, and subsequently closed these by suture. The bimanual method should of course be used in all cases of exploring the bladder.

Dr. Price Brown, of Toronto, read a paper on "Deviations of the Nasal Septum."

Talipes Requiring Operation.—Dr. B. E. Mackenzie, of Toronto, presented four cases illustrating the surgical treatment of this deformity. The method of Phelps, of New York, was referred to. He recommended great care in first correcting the varus before attempting to remedy the equinus. Phelps's operation of incision on the concave surface of the foot was described, and shown to be better than removing bone on the convex side. The foot should first be brought into a position of over-correction, and retained there by fixation apparatus, preferably plaster bandage.

Dr. A. E. Mallock, of Hamilton, read a paper on "Excision of the Shoulder and Elbow Joints on Same Arm for Traumatism." He related the history of a highly interesting case, demonstrating how useful a limb might be obtained after such an extensive mutilation.

Acute Necrosis of Growing Bone.—Dr George A. Peters, of Toronto, presented a paper on this disease, which is known also as acute infective osteo-myelitis, necrosial fever or bone-typhus and is exceedingly malignant and more frequently recognized at the post-mortem table than at the bedside. The symptoms were illustrated by the history of a typical case.

Therapeutic Hints.

On the Value of Arsenic.—Mr. Jonathan Hutchinson believes that arsenic is a specific for psoriasis, pemphigus, and recurrent herpes. It sometimes acts badly in aged and elderly persons. It is of doubtful value in eczema.

The Composition of Tuberculin.—The *Deutsche Medicinische Wochenschrift* announces, apparently on the best authority, that Professor Koch, since his return from Egypt, has been principally engaged in isolating the active principle of tuberculin, and defining its chemical characters, so as to make it possible to test its properties in the same way as is done in the case of other medicinal substances. As soon as these researches have been brought to a successful issue—a result which there is reason to hope will be attained within the next few months—Professor Koch will publish a comprehensive work in which full particulars will be given, not only of these later investigations, but of the whole procedure used in the preparation of the remedy.

Reduction of Colles's Fracture Under Anæsthesia.—Dr. R. C. Huse, of Georgetown, Mass., writes: "I have noticed quite frequently in the various journals, in allusion to the treatment of Colles's fracture, that the writers advise the doing away with splints, complete reduction being the one thing essential to success. With that idea I am much pleased, but I wish they would go a little further and use an anæsthetic, and see how much easier this is accomplished, and consequently how little effusion takes place; for much of the latter comes from the violent effort necessary in restoring the parts to their proper place. As this fracture is a *divulsion* of the head of the bone from the shaft, the restoration of the parts under an anæsthetic is so easy that they will fall in place by the simple grasping of the hand, as in shaking. If, therefore, reduction is all that is necessary, add the anæsthetic, and pain and deformity following the fracture will be the exceptions."

Cocoanut a Remedy for Tapeworm.—Dr. Charles E. Denhard, of New York, says: "I have seen some good results from the use of cocoanut for tapeworm. Sixteen years ago Mr. H—— came to me for treatment of tænia, which was only partially successful. Five months later he came to my office with two tænias (two heads and all), which were expelled as a result of eating for two days nothing but cocoanut. I have since seen several cases of successful expulsion after the same treatment, but it is by no means always efficacious. Ethereal fluid extract of male fern (Merck's) takes the first rank, but it must be given in large doses (not less than 3 iij. or 3 iv.), of course one such dose only."

A Disordered Condition of the Primæ Viæ.—Dr. J. M. Hays, of Oxford, N. C., writes: "A furred tongue—large and flabby, with a bluish cast—anorexia, constipation, perhaps alternating with diarrhœa, slight headache, general lassitude, sleeplessness, loss of interest in business and pleasure. Do you see such cases? Give them

℞. Podophyllin..... gr. x.
Tinct. nux. vom..... ʒj.
M. Sig.: Shake and take from five to eight drops in a little water before each meal.

You will be pleased with the results. Use this also where nitromuriatic acid seems indicated, but fails to produce the desired result. After an experience of several years with this prescription I can recommend it with confidence."

Katzenjammer.—Resorcin is said to act admirably in cases of nausea and depression following a carouse. It is given in the dose of from five to ten grains in plenty of water flavored with syrup of orange peel, and may be repeated once or twice at intervals of half an hour. A single dose of ten grains is, however, said to be usually sufficient.

Square Sounds in Stricture of the Deep Urethra.—Dr. Hal C. Wyman, of Detroit, employs sounds made square (slightly grooved between the angles for carrying a lubricant), in the treatment of deep strictures, and says that they have given him great satisfaction. He has them made of copper, of the varying sizes of the American scale, and coated by first dipping them in metallic mercury and then rubbing them until they are highly polished. The principle upon which they are employed is that of the wedge.—*International Journal of Surgery*, June, 1891.

Vomiting of Pregnancy. — Drs. Heuske and Gottschalk have found menthol very useful in obstinate vomiting of pregnancy. They give the drug according to the following formula:

℞. Menthol..... gr. xv.
Alcohol..... ʒ v.
Distilled water..... q. s. ad ʒ v.
M. Sig.: Tablespoonful hourly until the vomiting ceases.

In several instances in which the vomiting had refused to yield to any other remedy, it was controlled after the fourth or fifth dose of this solution.

Flatulent Dyspepsia is often greatly relieved by a mixture of equal parts of powdered sulphur, magnesia, phosphate of lime, and charcoal. A teaspoonful of this powder is taken in a glass of water during an attack.

Sterility.—Not infrequently sterility in women depends upon an acid condition of the vaginal secretions. In such cases a vaginal douche at bedtime of two quarts of water, containing one ounce of bicarbonate of soda and three or four ounces of glycerine, will often lead to the desired result.

The Preparation of Museum Specimens.—Dr. Richard Thoma, of Dorpat, describes a method he has devised for retaining the natural color of organs in museum preparations. After slight washing in water they are placed for some hours in strong saline solutions, of which he gives two formulæ:—

	A.	B.
Crystallized sulphate of soda	100 grm.	60 grm.
Chloride of sodium	100 grm.	100 grm.
Chlorate of potassium	100 grm.	30 grm.
Nitrate of potassium	10 grm.	10 grm.
Water to make	1 litre.	1 litre.

The organ is suspended for eighteen to twenty-four hours in one of these solutions, and then placed in pure spirit, which requires changing once or twice. It is better to immerse only portions of the larger organs, such as the liver or spleen. The preparations retain their appearance for months, the only notable change being the conversion of the red color of hæmoglobin into the browner tint of methæmoglobin. Nor is their structure so affected as to be unfit for subsequent microscopical examination.—*Lancet*, June 6, 1891.

Acne.—The following is recommended as a useful application in cases of blackheads and pimples disfiguring the faces of the young, of both sexes:

℞. Oxide of zinc,
Resorcin,
Starch.....āā 3 j.
Vaseline..... 3 ijss.
M. Apply a thin coating to the affected parts, at bedtime, and rub off with oil the following morning.

An Internal Angular Arm Splint.—Dr. G. M. Randall, of Augusta, Me., writes: "From the fact that there are so many varieties of splints used about the arm and forearm, it would seem that just the thing had not been found. All of the many indications may not be met by any single appliance, but the splint herein described meets more indications than any other one splint I have yet seen. It is made of medium heavy tin-plate, in three pieces, so cut that when soldered and riveted together and applied, the proximal arm of the splint covers the anterior surface of the biceps, while the distal arm covers the flexor muscles of the forearm at the same time it puts the arm at a right angle and midway between pronation and supination. There is a wooden handle at the distal end which serves as a grip. The splint could easily be made with a hinge-joint and thus any degree of angle could be obtained. The advantages of the position of semipronation are obvious, but it is well to mention that it is a natural restful position. The splint is well adapted to fractures of the external or internal condyles, any fracture of the humerus below the upper third, or any fracture of the radius or ulna including Colles's. I have used the splint with success in a case of compound complicated fracture of the internal condyle, and in Colles's fracture, and have also found it of service in retaining the arm of a child with fractured clavicle."

Piperazine is the name of a newly-introduced drug which, it is claimed, exerts a beneficial action in uric acid gravel and gouty affections. In *Notes on New Remedies* it is stated that the hydrochlorate of piperazine is preferred by most practitioners, and it is further suggested that the remedy is most advantageously administered in combination with aërated water.

Lysol is a new antiseptic that has been taken up with enthusiasm in some of the continental cities. It is a clear oily liquid, with a strong pungent odor, and often exerts an irritant action on the skin.

Acute Coryza.—Dr. M. D. Lederman, of New York, finds the following mode of treatment very beneficial during the congestive stage of an acute nasal catarrh. The nasal chambers are sprayed with any of the antiseptic solutions, Seiler's preferred, until they are sufficiently cleansed, and then the following solution is used:

℞. Cocaine,
Menthol.....āā gr. xx.
Benzoinol..... ʒ ij.
M. Ft. solution.

The feeling of fulness in the nose, associated with the dull frontal headache, is no doubt the result of extreme congestion. For the relief of these symptoms, cocaine has been used for a considerable period, but it has been found that its effect soon passes off, and the patient is left in the same uncomfortable position as before. To obviate this menthol was added to the solution. Menthol is a local anæsthetic, and in combination with cocaine, it keeps up the local depletion and leaves a pleasant coolness in the nasal chambers, enabling the patient to breathe through the natural passages. Benzoinol is used in this solution as the menstruum, on account of its bland and unirritating qualities, and freedom from unpleasant odor.

A Dental Screw for Removing Impacted Bullets.—Dr. W. L. Hughlett, of Cocoa, Fla., writes: "Isaac H——, a young negro man, came to me on March 31st last, to be treated for a gunshot wound of the right elbow which he had received two days previous. He had been shot from behind with a 38 calibre pistol, the ball having penetrated the skin a little above the joint, passing downward and forward, lacerating the ligaments and synovial membrane, and splintering the bones to some extent, and was firmly impacted between the internal condyle of the humerus and the olecranon process. The arm was so much swollen that I decided to chloroform the man before making any effort to extract the ball. This done, I carefully opened up the tract and attempted with forceps to remove the bullet, but it could not be moved. I tried a pair of long shank toothed forceps, they only cut through the lead without loosening the ball a particle. Having seen Dr. L. T. Daniel, a dentist having an office adjoining mine, extracting roots very skilfully with a dental screw, I thought I would have him try it on this ball. Calling him and his instrument to my assistance, I opened up the wound; he drove in the screw and extracted the ball in a few seconds, without trouble. I hardly hoped for anything but an anchylosed joint, but the wound has healed, there is good motion, and the arm is quite as useful as ever."

Eczema.—Unna recommends the following application for the relief of obstinate eczema of the scrotum and anus.

℞. Iodoformi..... 3 ij.-iv.
Zinci oxidi..... ʒ jss.
Aq. calcis,
Ol. lini.....āā ʒ jss.
M. Sig.: For external use.

For Tender Feet.—Tramps, either amateur or professional, who suffer from sore feet after an unusually long walk, will experience great relief from soaking the feet once or twice a week in a half-pailful of hot water to which a piece of nitrate of potassium the size of a small walnut has been added.

Vinegar for Urticaria.—After trying many remedies in a severe case of urticaria, Mr. Swain found a vinegar lotion gave almost instant relief, and subsequent trials in other cases have been equally successful. One part of water to two parts of vinegar is the strength most suitable.—*British Medical Journal.*

Pistoia Powder.—There is a powder made in a convent near Pistoia, Italy, which is used very extensively as a protective against gout. The following is said by Mr. Chastaing to be its composition.

℞. Bryonia root,
Gentian,
Chamomile ..... āā gm. x.
Colchicum root ..... gm. xx.
Betony ..... gm. l.

This is made into 365 powders, one of which is taken each day of the year in a full glass of cold or hot water.

The Control of Hemorrhage in Amputation at the Hip-joint.—Dr. Neal Hardy reported in the *University Medical Magazine*, for May, 1891, a case of successful amputation at the hip joint in which hemorrhage was controlled by direct digital compression of the aorta, effected by means of a preliminary laparotomy. Dr. John J. Buchanan, of Pittsburg, writes in the same journal for July, claiming that the idea was his own, and that he had made and published the suggestion some time before the operation was performed.

Œdema of the Glottis.—Dr. de Mendoza has successfully treated three cases of severe œdema glottidis by means of hypodermic injections of pilocarpine. The dose was $\frac{1}{12}$ grain, and three injections were given within an hour.—*Semaine Médicale.*

To Abort a Furuncle.—The early application of the ointment of the nitrate of mercury is recommended as an effective means of aborting a boil.

Amenorrhœa.—The following is recommended as a reliable emmenagogue in many cases of functional amenorrhœa:

℞. Bichloride of mercury,
Arsenite of sodium ..... āā gr iij.
Sulphate of strychnine ..... gr. jss.
Carbonate of potassium,
Sulphate of iron ..... āā gr. xlv.

Mix and divide into sixty pills. Sig.: One pill after each meal.

—*Revue Médico-Chirurgicale des Maladies des Femmes.*

Gonorrhœa.—Rademacher recommends an injection of five minims of pyridin in three ounces of water as the most efficacious of all local remedies for gonorrhœa.

Benzin for Boils.—Dr. F. W. Langdon uses benzin as an abortive agent in furunculosis, employing it in the following manner (*Lancet-Clinic*): At the first appearance of the little hard painful papule, saturate a pledget of absorbent cotton with the remedy, and press it firmly, but not forcibly, over the swelling, for about half a minute. Repeat this every hour or two for the first day, after that two or three times a day, as the swelling and pain subside.

New Instruments.

TWO NEW EYE INSTRUMENTS.[1]

By J. S. PYLE, M.D.,
CANTON, O.

In attempting to introduce anything new to a large number of liberal-minded men such as are found in the medical profession, it is perhaps unnecessary to offer an apology; but as the medical profession, like all other professions and organizations, has among it a class who protest against innovations, it would appear appropriate that I offer some excuse for allowing myself to occupy the position I have chosen. Knowing how the profession is constantly being annoyed with new devices, I should be the last to claim your indulgence, were it not that I feel confident I have something to present worthy of consideration. Still, should I fail in my anticipations, I request nothing more than the charity that courtesy so generously bestows. On the other hand, if I succeed, the pleasure of realizing that fact is all I could ask.

I might state, with advantage, that the labors of an oculist are not always surrounded by conveniences; and as many of us are often called from a distance with a view of making some delicate operation upon the eye where a suitable assistant cannot be had, it is not at all surprising

Fig. 1.

that one would be forced to plan some arrangement by which the aid of another could be dispensed with advantageously. In pursuance of this object, I have devised two instruments, both of which are familiar; but so differently arranged, and in some respects constructed, that I am almost justified in calling them original.

Fig. 1 shows a view of my Self-retaining Lid Retractor. It consists of a thin piece of flexible steel equipped with a slide, which bears at its lower part a clamp projecting about an inch forward.

The jaws of the clamp are slotted, and have a common base; but sufficiently separated to receive between them a modified retractor, or elevator. The handle of the retractor is slightly curved, and also slotted, for the purpose of giving passage to a thumb-screw, which is used to pinion it at whatever angle and point of elevation it may be deemed necessary. The base of the clamp operates upon a pivot, which gives it lateral motion, and allows the retractor to conform to the direction of the tension of the eyelid. The steel front bearing the slide is padded, and provided with a perforation at each end, through which is fastened a silk band, made to encircle the head and retain the instrument in position. The slide referred to can be moved along the steel band, and permanently fixed at any point desirable. This makes it universal, and equally useful for either eye. When adjusting the instrument, the operator should bear in mind to place the steel front just above the superciliary prominences, and tighten the silk band sufficiently to prevent any downward movement. This observed, the slide bearing the clamp and retractor may then be moved to a point immediately above the eye to be operated upon, and secured there by a friction-screw provided for the purpose. When ready to proceed with the operation, the retractor should be gently introduced, elevated, and pinioned at the point desired. The discomfort arising from its use is very slight, and a little acquaintance with the instrument is all that is necessary to prove its superiority in the cases for which it was designed.

The purpose of the instrument is to do away with the stop-speculum in cataract operation and in iridectomies, and the necessity of having an assistant to hold the ordinary lid elevator. It is the writer's opinion that it is impracticable and unsatisfactory in many cases to use the common stop-speculum. For instance, where the palpebral fissure is short, or the eye sunken very much in the orbit, a speculum compromises the ease of approaching the ball; and if the patient be nervous and inclined to blink, its removal after the operation is attended with not a little danger. I have of late discarded the use of the stop-speculum, and used exclusively the ordinary lid elevator, which I have found to be much more satisfactory, owing to its ease of introduction and removal, and the

[1] Read before the Canton Surgical and Pathological Society, January 5, 1891.

readiness with which the eye can be reached from the side.

The fact that the elevator has proved superior in my hands, caused me to plan how it could be used without the aid of an assistant. This I believe I have successfully accomplished, and trust that my ideas may be found in harmony with the views entertained by others on this subject.

Fig. 2.

Fig. 2 represents my Fixation Forceps, to which I wish to call special attention. The jaws, as you will observe, form a segment of a circle, corresponding to that which the eye describes behind the corneal limbus. The advantage of this over other fixation forceps is evident. A larger amount of conjunctiva can be seized, and the eye embraced in such a manner as to effectually prevent the ball from rotating in the horizontal or vertical axis. This, experience teaches, is greatly to be desired in cataract operations, and particularly in those cases where the anterior chamber is shallow, and a well-directed section is imperative. With the ordinary fixation forceps, every operator on entering the knife has had the unpleasant experience of seeing the globe move about as though meeting with no resistance whatever; and in many cases, where there is a very loose conjunctiva to deal with, the eye turns upon its horizontal axis until the point of puncture is almost vertical before the knife can be forced through the coats and made to traverse the anterior chamber. As soon as the resistance is overcome, the eye returns to its former quiescent position, and on so doing prolongs the operation, which at this time it is so necessary to hasten, owing to the escape of aqueous and the importance of securing the counter-puncture before the cornea sinks sufficiently to embarrass the passage of the knife. Delays are sometimes hazardous, and the operator is frequently compelled to hurry, without proper deliberation, and under circumstances that make success an accident rather than the result of any well-directed method.

If, then, it is possible to minimize the mobility of the

Fig. 3.

eye during the process of making the section, it seems plain that an essential point is gained, and what before was an exceedingly risky proceeding is turned into a very simple one.

Fig. 3 shows both instruments in position. The illustration does not, however, give the correct position of the jaws of the forceps upon the eye, as they should be applied to the ball behind the corneal limbus; but in every other way it is well executed. The sphere of usefulness of both instruments is not confined to cataract extractions; but they may be used equally advantageously in iridectomies, the operation of discission in congenital cataracts, secondary cataract operations, and other operations where an easy approach and immobility of the ball are to be desired.

In leaving this subject to the consideration of my professional friends, I only hope that I may not have occupied your attention in vain; but that the ideas advanced may prove a source of usefulness.

I desire to express my obligations to Messrs. George Tiemann & Co. for their excellent work in making the instruments, and preparing the illustrations.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 19, 1891, to July 25, 1891.

ROBERTSON, REUBEN L., Captain and Assistant Surgeon. Ordered for duty to Fort Niagara, N. Y., on the abandonment of Fort Abraham Lincoln, N. D.

KNEEDLER, WILLIAM L., Assistant Surgeon. Granted leave of absence for one month.

TILTON, HENRY R., Surgeon. Granted leave of absence for two months on surgeon's certificate of disability.

Official List of Changes in the Medical Corps of the United States Navy for the week ending July 25, 1891.

FIELD, JAMES G., Assistant Surgeon. Ordered to special duty in the Bureau of Medicine and Surgery.

HOPE, JAMES S., Assistant Surgeon. Ordered to the receiving ship Franklin.

MORRIS, LEWIS, Assistant Surgeon. Ordered to the Ajax and other monitors, Richmond, Va.

KEENEY, JAMES F., Assistant Surgeon. Promoted to Passed Assistant Surgeon.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 25, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	41	10
Scarlet fever	117	18
Cerebro-spinal meningitis	1	1
Measles	165	16
Diphtheria	58	24
Small-pox	1	0
Varicella	0	0
Pertussis	1	2
Erysipelas	0	0
Mumps	0	0
Rötheln	0	0

Arsenic in Wall-paint.—Dr. William N. Swift reports a case of chronic arsenical poisoning in the *Boston Medical and Surgical Journal*, in a child, the source of which was found to be in the blue paint on a wall.

Illiterate English Surgeons.—It seems rather strange, after all that our English friends have had to say about the illiteracy of physicians in this country, to learn, on the authority of Sir Ralph Thompson, that there is a "manifest deficiency in orthography prevalent among the young medical officers of the army."

Metamidophenylparametoxiquinoline is the name of the latest rival of quinine. It has been suggested as a remedy for stuttering.

Medical Record

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Original Articles.

THE PATHOLOGY OF THE CAISSON DISEASE.*

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ACCURATE scientific observations and records of the symptoms and lesions from which men suffer who work in compressed air are of quite recent date, though more or less incomplete and fragmentary accounts of the pathological effects upon workmen under increased atmospheric pressure have been handed down to us for three centuries or more.

The severity of these symptoms has steadily increased in direct ratio to the greater pressure which the human system has had to withstand, on account of the greater requirements in engineering science.

The first experiment that has been recorded of the employment of compressed air occurred in the beginning of the sixteenth century, when two Greeks, in the presence of Charles V. and several thousand spectators, let themselves down under water in a large inverted kettle and rose again without wetting themselves.

From this epoch the diving-bell, which was unventilated, slowly increased in favor and use. The pathological effects in the divers that have been mentioned by various writers of these times were mostly of a trivial character, and were rightly thought, in part at least, to be due to the moisture, heat, and foul air in the bells.

John Smeaton,[100, 101] in 1678, introduced fresh air in the bells by means of the air-pump. From this time most of the symptoms which had been observed in the unventilated diving-bells suddenly ceased.

The first physicians to call attention to the pathological symptoms on workmen were Hamel,[50] in 1820, and Colladon,[26] in 1826.

Neither saw marked cases of the disease, and what symptoms they did see—excepting of course the pain in the ears, which they rightly attributed to direct pressure of the condensed air on the membrana tympani—they considered to be of a neuralgic character.

Triger,[110] in 1848, and Barella,[3] in 1861, thought that the pains were of a rheumatic nature, and were produced by the rapid chilling of the air when the pressure in the bells was removed, on workmen tired and bathed with sweat.

Pol and Watelle,[86] published their report in 1854. Their article is the first of any real scientific value, from a medical stand-point, that has appeared; and they were the first to see the disease in all its intensity.

Since that time many monographs have been written on this subject, and a multitude of cases published. These reports having been printed in many languages, over a long series of years, and often in not-widely circulated journals, appear to have been little known by the various writers on the subject. So that nearly every observer has developed a theory of his own, and has paid but scant or no attention to those of others. Of all the reported cases of death from this cause, there have been but twenty-nine on which an autopsy has been made, and, strange to say, there are two cases only on record in which the spinal cord has been examined microscopically.

The objects of this paper then are, first, to report two cases of caisson disease, one terminating in recovery, and the other in death, and in which latter an autopsy and a minute examination of the cord were made; and second, by a critical examination of all the theories, and all the necroscopies, to endeavor to throw a little more light on this obscure subject.

CASE I.—M. McD——, American; single; laborer. Entered St. Peter's Hospital, October 1, 1889. Patient's family history is good. He has always been perfectly healthy. He has never indulged to excess in alcohol, and has never had any venereal disease. In June, 1888, he worked for about two weeks in a caisson at Cairo, Ill., the pressure in the caisson being about forty pounds, and the shifts of two hours length. From this he felt no ill effect. On the day in question a new caisson was employed, but he does not know whether the pressure was increased or not. As usual, on this day he worked his two-hour shift, and on emerging from the caisson he drank some coffee, took a hot bath, and entered a boat to be carried across the river. On trying to rise from his seat—this being half an hour after coming out of the caisson—he found that he was unable to move his legs and they felt numb. He had to be carried to the hospital. He had no nausea, no giddiness, no pain in the legs, but some pain in the belly which lasted five minutes. He became obstinately constipated, which symptom has always continued. Retention of urine occurred at once, and lasted three months, and was followed by incontinence which continued a month; then he gradually regained control of his sphincter, and now he can hold his water for two hours.

For the first week his legs were completely paralyzed. Then he began to move slightly the toes of his left foot, then the knee of the same leg. His right leg then began to improve in the same way; after four months he was able to walk with crutches, after six months he could get along with two canes instead of the crutches, two months later he was able to get about with one. During this time he had some girdle sensations around his abdomen of no great severity. He was treated at the hospital with electricity and liniments.

Since he left the hospital he slowly improved for some time, but now seems to be at a standstill.

Physical Examination.—Patient is fairly nourished, no œdema. There are no cardiac nor thoracic lesions. The patella reflexes are markedly exaggerated, ankle clonus can sometimes be feebly obtained, the other reflexes are normal. Tactile sensation and sensations of heat and cold are normal. His gait is staggering, and he is unable to walk without a cane. He cannot jump. The legs cannot voluntarily be flexed above an angle of forty-five degrees. His bowels move after the exhibition of strong medicines only. Water can be retained for three hours. Urine, amber-colored, acid, specific gravity 1.020, contains no albumin, and is microscopically negative. Ordered galvanism to his legs every day, and a pill containing small doses of strychnine and belladonna.

November 1st.—Patient can hold his water now for four hours, and he has to get up two or three times at night. He can jump about an inch high, and can flex his legs more than last month. He can now walk without a cane, but it is with considerable effort. His bowels are not quite so constipated as before.

* Being the Merritt E. Cash Prize Essay of the New York State Medical Society, 1891.

December 1st.—His control over his bladder is much stronger; he is able to hold his water for five hours, and has to get up once during the night only. Constipation continues much the same. He jumps now fairly well, and walks with scarcely any staggering. He can flex both legs well, the left being somewhat stronger. The patella reflex is still markedly increased, and sometimes he has girdle sensations, which, however, are not very marked. His general condition is much improved.

March 1, 1890.—Since last note patient has improved slowly, and now can walk quite well.

CASE II.—J. M——, aged forty-eight; American; single; a boatman by occupation. Entered St. Peter's Hospital September 15, 1889.

History.—Patient's sister, brother, father, and uncle on the father's side died of consumption. He has a strong alcoholic habit. He had well marked syphilis three years ago. He was well till September 8th, when with a companion he went down, from curiosity, into a caisson under the Hudson River, at Hoboken. This was the first time that either had been in a caisson; they did no work there, but remained in the compressed air about half an hour. The amount of pressure and the time of locking-in and locking-out were unknown. On emerging his companion had pain in, and bleeding from, the ears, but no other symptoms. Our patient felt weak, dizzy, nauseated, and had ringing in the ears. He walked at once to his boat, a distance of about fifty yards, and went into the cabin. There his legs suddenly became weak and could not support him, and he fell to the floor. He did not lose consciousness, and had no pain in the head, spine, nor legs. He was unable to move his legs, and had to be carried to bed, where he has been ever since. From that time he has been unable to move the lower half of his body, or to pass his water; he has had no erection, and no movement of the bowels.

Physical Examination.—Patient is well nourished, and has no œdema. His temperature, respiration, and pulse are normal. There is no evidence of pulmonary nor cardiac lesion. There is complete paraplegia below the waist. Epigastric, cremasteric and patella reflexes are absent. Plantar reflex is faint on the left side, absent on the right. There is no ankle clonus. When touched he can feel and localize the object when the pressure is firm. With the æsthesiometer he is unable to distinguish between one or two points, even at a distance of 10 ctm., on any place on the thigh, leg, or foot. He is unable to distinguish between the scratch of a pin and the friction of a broad feather. He cannot tell the difference between hot water and ice. There is a commencing bedsore on each side of the sacrum. It requires an electric current of twelve milliampères to produce a faint contraction of the peronei or tibialis anticus of either side. Urine, red, opaque, alkaline, specific gravity 1.025. Very foul smelling. Contains five grammes of albumin to the litre. (Esbach's albuminometer used.) Microscopically, there are found a large number of red blood-cells, pus, and bacteria. No casts could be found. Ordered strychnine (gr. $\frac{1}{60}$) t.i.d. Bladder to be washed daily with acid carbolic, 1 to 500. Galvanism every day to legs.

September 19th.—Patient's bowels move only after exhibition of large doses of cathartics. When he has a movement it is involuntary. He complains of a girdle sensation around the waist

September 21st.—He can now move the toes of his left foot, and very slightly the ankle; he can also move slightly the toes of his right foot. Urine, red, opaque, specific gravity 1.020, alkaline, contains three grammes of albumin to the litre. Blood- and pus-cells are numerous, no casts; it swarms with bacteria. It does not now smell quite so foul as at last note, and contains less blood and albumin.

September 23d.—His bedsore is washed and dressed every day, but is rapidly extending. He has been put on a rubber ring. Until to-day his water has had to be drawn off every eight hours; this morning he passed it involuntarily.

September 27th.—It is found that his bladder can hold his water about an hour, and then it is passed without the patient's knowledge, as are also his fæces. His appetite is good, and he can move his toes and feet better.

October 1st.—Patient's conjunctivæ are becoming slightly jaundiced. He is more or less nauseated from time to time, and his appetite is poor. His bedsore is spreading rapidly and is almost impossible to keep clean. His urine is, however, much better, it contains less blood and is less foul; there is one and a half gramme of albumin to the litre.

October 5th.—Patient is failing rapidly; he is steadily emaciating; the nausea, vomiting, and anorexia continue. Urine and fæces still involuntary; the blood has nearly disappeared from the urine. Albumin, one-half gramme.

October 10th.—Patient is rapidly getting worse. The bedsore is very large, and is spreading in all directions. The sacrum is laid bare; and there is a deep gangrenous ulcer over each gluteus maximus as large as the palm of the hand; on the right side this gangrene extends outside the great trochanter, about two inches wide and five inches long down the leg; in depth it reaches almost to the femur. There is also a gangrenous spot over the internal malleolus of the left foot, about the size of a quarter of a dollar. The gangrenous areas are dressed twice a day. He is unable to move his toes now, but instead, there is rigidity of both legs, with extension of both feet. Turning him over to wash his gangrenous spots causes pain in both legs.

October 12th.—His temperature, respiration, and pulse, are and have been normal. His nausea and vomiting have ceased, but the anorexia continues. He is very weak, but his mental condition remains good. A gangrenous area has formed on the posterior aspect of the left calf, about two inches long by an inch wide. Nearly all of his buttocks are involved in the gangrenous slough, which is very offensive.

October 14th.—At 10 A.M. patient quietly died.

Autopsy (held less than an hour after death).—Body considerably emaciated; muscles of the legs very flabby. The gangrenous areas have been described. The brain and cerebral meninges were normal. The chest and abdomen were not opened.

Examination of the Cord Macroscopically.—The spinal meninges and the uncut surface of the cord looked normal. No extravasations of blood were to be seen. The amount of spinal fluid was normal. The cord was hardened in Müller's fluid. On cutting sections of the cord, all parts of it were found to have undergone pathological changes. In the cervical region there is well-marked ascending degeneration of the columns of Goll and the direct cerebellar tracts. These can be traced up into the medulla, where they gradually become lost. In the lumbar region there is descending degeneration of the pyramidal tracts, which gradually became smaller till they too disappeared at about the level of the first sacral nerve. In the dorsal region there appears to be a disseminated myelitis, its portion of maximum intensity being a space of about two inches long in the middle of the dorsal region. It gradually decreases in intensity on both sides from this maximum portion. Beginning from below upward, at about the level of the twelfth dorsal nerve, there begin to appear a few small yellow spots in the posterior columns. At first they are small and scattered, but as one follows up the cord they become more numerous. The spots are long and all lie with the long axis antero-posterior. There is a marked difference in the color of the same spots at different levels when the sections are cut pretty close together. In general, the relative value of the color of the spots is about medium between the gray and the white, when stained by Müller's fluid, *i.e.*, bright yellow and dark-brown. But at some level, a small portion of the area, generally in the centre of the

spot, is bright yellow, and looks necrosed and somewhat crumbly. As we proceed up the cord the spots become larger and coalesce, until they occupy, at the region of greatest change, the whole of the posterior columns. Also, as we begin to go up from the twelfth dorsal, the degeneration of the pyramidal tract loses its distinctive character, and the degenerative area spreads and occupies nearly all of the posterior part of the lateral columns, and then spreads to a less degree and irregularly into the anterior-lateral columns. At the portion of maximum intensity a few small round isolated spots are seen in the anterior columns, the same bright spots being observed in the lateral and anterior columns as in the posterior. Above the portion of greatest change the pathological changes decrease rapidly, until only the ascending degenerations of the posterior columns and direct cerebellar tract remain. At first the degeneration on the posterior column is broad, but as it ascends it becomes narrower and more sharply defined, confining itself to the columns of Goll. The gray matter seems normal throughout. No evidence of hemorrhage can be found.

Examination Microscopically.—The gray matter appears normal everywhere. The large cells in the anterior horns are perfectly sharply defined, and the processes going from them are clear and distinct, as are also the nuclei. In the small spots of most marked change no axis cylinders can be found; extensive destruction of the fibres is present; in their place are large spaces, some empty, some occupied by degenerative products. The blood-vessels are enlarged and somewhat more numerous than normal, the adventitia is thick and studded with cells. No cells of Deiter's can be found. In the portions less acutely degenerated the same condition of affairs obtains, but to a less degree. The neuroglia is increased in thickness and is rich in cells; many alveoli are normal. Most of the nerve-fibres are enlarged and swollen; in many places the axis cylinders are very small, in others they have disappeared. Nowhere is there any trace of hemorrhage, nor of any infiltration of cells.

Summary of the Two Cases.—Case I., in which the disease ended in recovery; the patient came of healthy stock, was physically perfectly sound, had no alcoholic habit, and had never contracted venereal disease. The onset, occurring half an hour after his leaving the caisson, was sudden, without prodromata, and without pain in the legs or head, and with but a transient abdominal ache. The symptoms were of the nature of a complete paraplegia involving both lower extremities, bladder, and rectum. After the first week he began to improve and has steadily, though slowly, continued to do so. Motion was first obtained in his toes and gradually extended upward. At no time during recovery did he have pains in his legs, but he had some girdle sensation around the abdomen of no great severity. Ever since the accident he has had obstinate constipation. Control of his bladder was not regained until after four months: the bladder is still irritable and he cannot retain his water more than two hours. He was treated with electricity. His symptoms a year after the attack, when he first came under my observation, are those of a moderate spastic paralysis.

Case II., in which the disease ended in death, the patient came of a markedly consumptive family, had a strong alcoholic habit, and had contracted syphilis three years previously. The onset, occurring five minutes after his leaving the caisson, and preceded by the prodromata of giddiness, weakness, and nausea, was sudden, and without pain in head or legs. The symptoms were also of the nature of a complete paraplegia involving both lower extremities, bladder, and rectum. This patient steadily became worse and soon developed a gangrenous bedsore, which spread and deepened with great rapidity; he emaciated, failed, and died in about five weeks from the time of the accident.

At the autopsy, the contents of the cranium and spinal canal looked normal. The chest and abdomen were not examined. Later examination of the hardened cord showed, in the dorsal region, an area about two inches long, in which there were marked pathological changes in the white matter. The posterior columns and adjacent portion of the lateral columns were the parts most involved, though the diseased portion extended into the anterior part of the columns, though gradually shading off in intensity anteriorly. In this diseased portion there were irregularly-shaped spots of a different color from the rest of the cord, and at some level the centre of these spots seemed necrosed and somewhat crumbly. These spots were separated from each other by apparently normal tissue, but in the region of most change scarcely any normal tissue remained in the postero-lateral columns. Above and below the diseased area were the usual ascending and descending degenerations.*

On microscopical examination there was extensive destruction of the nerve-tissue in the diseased portion, in places no axis cylinders could be found, their place being taken by spaces, some empty, some filled with degenerative products; other nerve-fibres were swollen; many axis cylinders were atrophied. The neuroglia was somewhat increased in thickness and was rich in cells. The adventitia of the blood-vessels was also increased in thickness. The gray matter was normal throughout.

The Published Necroscopies.—In order to give weight to any hypothesis, on anatomical grounds, that we may wish to advance, it is necessary that we should collect all the material possible that has been published on this subject, in order that by comparison of a great many autopsies we may be able to deduce conclusions as to the lesion or lesions regularly appearing in a preponderance of cases. To this end have been collected here all the reports of the necroscopies of persons dying from the caisson disease that have been found scattered about in a multitude of journals.

With the exception of two by Gallard, that I have been unable to obtain, this list is believed to be complete. Many other authors have observed cases of death from this cause, but they have failed to make, or at least to report, the autopsies. The published cases are very briefly as follows:

Case I. (Chabaud's,[17] No. 1).—L. C——, Italian, aged thirty three, locking-out one minute (atmospheric pressure and length of time at work not stated). On emerging he had prostration, great dyspnœa and abdominal pain; his legs became paraplegic, and he had retention; a bedsore developed, and he lived one month.

Autopsy.—The blood was fluid and acid. There was a spot of softening in the gray matter of the cord, beginning at the level of the lumbar region of the cord, and extending upward 2½ ctm. The lower part of the dorsal region is of a rose color.

Case II. (Chabaud's, No. 2).—P. G——, aged twenty-three. Removal of pressure occupied one minute and a quarter. On emerging, great pain in the right thigh, which steadily became worse. Urine and fæces normal. Bedsore. Death after two months.

Autopsy (twenty-four hours after death).—Rigor mortis present. There was a large bedsore over the sacrum. The coxo-femoral articulation was opened, letting out a large amount of fetid pus. Anterior to the capsule is an opening into the abdominal cavity. There is a large abscess in the iliac fossa; the sheath of the psoas is full of pus; the lumbar plexus and obdurator are bathed in putrid pus. The liver is hard and congested; the spleen and kidneys normal. The bodies of the vertebræ are engorged with blood; the cord is hyperæmic, red, and arborescent. At lumbar enlargement there is a small spot that is more injected and a little yellow. The cauda equina is markedly congested. Head and thorax not opened.

Case III. (Heiberg's[52], [53] No. 1.)—*Autopsy:* Subject muscular, rigor mortis present. There are no signs of progressive putrefaction. On several parts of the

* See plates of sections of the cord taken from various levels, magnified six diameters, on page 144.

body, particularly on the lateral sides of the chest, and the hypogastric region, and on the internal and external sides of the left thigh are large livid spots; over these there is crepitation; there is also crepitation over the right arm and left knee where there is no discoloration. Pressure over the heart, when the sternum was raised, gives crepitation. Air is present in the great veins. The heart is hypertrophied; there are coagula and air in the ventricles. The lungs are congested. The spleen, liver,

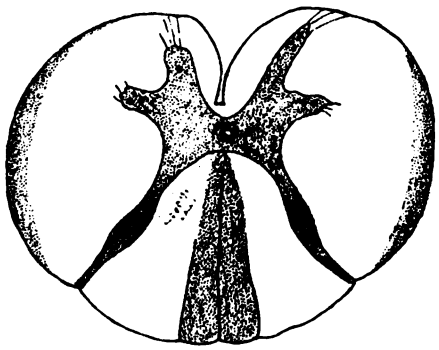

FIG. 1.—Second Cervical.

and kidneys are congested and contain air. The brain and membranes normal. The cord is soft; there is no congestion of the cord or membranes.

CASE IV. (Heiberg's, No. 2).—F. K——, aged thirty. On coming out of the caisson he had pains in his legs, followed by paraplegia. There was paralysis of bladder

FIG. 2.—Eighth Cervical.

and rectum. He became semi-conscious and cyanosed, respiration stertorous, pulse small and rapid. In four days he died.

Autopsy.—There was bloody fluid in the bronchi. The lungs were congested. The cord softened, its margins sharply defined in the lower dorsal and upper lumbar regions. Nowhere is there exudation of blood and no inflammation. Everything else appears normal.

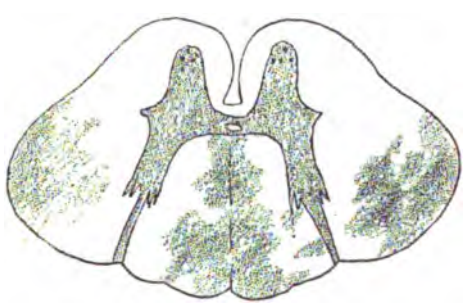

FIG. 3.—Third Dorsal.

CASE V. (Gerard's [48]).—C. P——, aged twenty-nine. Worked a long time under a pressure of 2.10 atmospheres. Removal of pressure rapid. He went home feeling well. There he felt cold, had sudden anxiety, felt nauseated, fell unconscious, and died.

Autopsy (twelve and one-half hours after death).—Rigidity is intense. There was cyanosis of the head, neck, and abdomen; there was abnormal turgescence of the lateral sides of the neck. Gaseous crepitation very marked along the great vessels of the neck, also along the femoral and radial arteries. Tympanitic resonance replaced the normal precordial dulness. The gas was discovered an hour after death.

CASE VI. (Pol's,[46] No. 1).—The pressure was four atmospheres. Patient came from caisson and washed, then fell down, and died in fifteen minutes.

Autopsy (nine hours after death).—The meninges were injected, the sinuses engorged with dark blood. The

FIG. 4.—Seventh Dorsal.

spinal canal was not opened. The lungs were engorged, especially at the base. The bronchi were filled with bloody mucus. The heart was normal; the stomach hyperæmic; the spleen, pancreas, and kidney congested; the intestines normal.

CASE VII. (Pol's, No. 2).—Patient was a drinker. Locking-out occupied twenty minutes. Soon after leaving he fell, and died immediately.

Autopsy (thirty-six hours after death).—The face and lips were livid. There was general subcutaneous emphy-

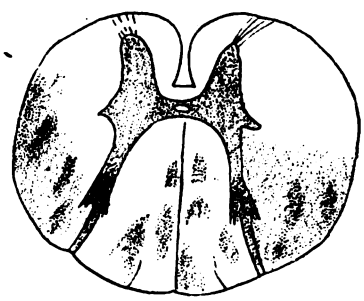

FIG. 5.—Twelfth Dorsal.

sema. Nothing abnormal was found in the meninges or brain. The cord was not examined. There was marked congestion of the lungs; the bronchi were hyperæmic and contained bloody serum. There was dilatation of the left ventricle. The right heart and vessels were gorged with blood. There were spots of congestion in the stomach. The spleen was large and congested, as were also the kidneys and pancreas.

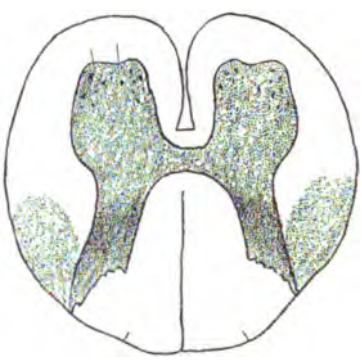

FIG. 6.—Third Lumbar.

CASE VIII. (Granjon's [47]).—An Italian, aged thirty-three, worked six hours under a pressure of two atmospheres. On coming out he had pains in his legs, prostration, dyspnœa, and râles in his chest. Then he developed paraplegia of his legs, and retention. Bed-sores developed, and he steadily became worse, dying after five weeks.

Autopsy.—Diffluent black blood was found in all the organs. There was no meningitis. There was softening of the gray substance of the cord in the upper lumbar region for a distance of about two centimetres. At the centre of the infected portion was a spot, the size of a millet-seed, completely necrosed.

CASE IX. (Clark's,[98] No. 1).—A German, aged thirty, worked two hours. Directly on coming out he had pain in the lower extremities, followed by paraplegia of the legs, and retention. After two weeks he died.

Autopsy.—The brain was softened. Pus was found below the arachnoid, covering almost all the brain; the pia and dura were adherent. There was an exudation between the dura and cranium. The dura of the cord was thick and opaque, and contained a serous pus. The substance of the cord was softened almost to a pulp as high as the fifth cervical nerve. The bladder was thick and soft, and saturated with extravasated blood; the mucous membrane was partly denuded and gangrenous. There was peritonitis, inflammation of the intestines, and gangrene of the rectum. The kidneys were large and contained several small abscesses in the cortex. The spleen was three times its normal size; the liver was congested and large. The lungs somewhat congested.

CASE X. (Clark's, No. 2).—Patient aged twenty-two. On coming out he had pains in his legs and shoulders, in a few hours paraplegia of the legs developed, and there was retention. In twelve days he died.

Autopsy.—The brain and cord were congested. The latter in many places was pulpy. Serum was increased in the spinal canal. There were small drops of extravasated blood on different parts of the external surface of the dura. All the abdominal viscera were congested, the lungs less so than the other organs. There were extravasations of blood in both kidneys. The mucous membrane of the bladder was thick and ecchymotic.

CASE XI. (Clark's, No. 3).—Patient aged thirty-five. Worked two hours. On coming out had paraplegia of both upper and lower extremities without pain. In a few hours he recovered the use of his arms and could move his legs slightly. After five days he died.

Autopsy.—The brain, cord, and meninges were highly congested. There was marked subarachnoid effusion. The cord was slightly soft in the lower dorsal region. The veins here were thrombosed. There were small clots on the external surface of the dura in the cervical and dorsal regions. The thoracic and abdominal viscera were highly congested. There were clots in the left kidney.

CASE XII. (Clark's, No. 4).—Patient aged thirty-two. After coming out, pain developed in the arms and shoulders and lower extremities. After several hours, paraplegia of the lower extremities developed, and pain became less. There was retention of urine and constipation. Five days later he died.

Autopsy.—The brain was anæmic, the cerebellum pulpy.

CASE XIII. (Clark's, No. 5).—On coming out he became unconscious. He developed a muttering delirium, but no paralysis. He died the next day.

Autopsy. — Brain, cord, and membrane congested. There was effusion of serum under both arachnoid and dura. The abdominal viscera were highly congested. The lungs were normal. The pericardium contained much fluid. There were small clots on the external surface of the dura mater of the cord.

CASE XIV. (Clark's, No. 6).—Patient aged twenty-two. Worked two hours. After coming out he complained of great pain in both upper and lower extremities. This was followed by paralysis of both legs, bladder, and rectum. Nearly pure blood was drawn from the bladder. After four weeks he died.

Autopsy.—The brain and meninges were highly congested. There was an increased amount of serum in the spinal canal. There were clots on the external surface of the cord. The cord was soft in the lower dorsal region. The lungs were normal; the abdominal viscera were congested. The mucous membrane of the bladder was thick and ulcerated, one ulcer had perforated, setting up purulent peritonitis. The colon and rectum were gangrenous. The kidneys were intensely congested and contained blood clots.

CASE XV. (Smith's,[103, 104] No. 1).—Englishman, aged thirty-eight. Corpulent. First day, worked two watches; pressure, thirty-five pounds. Immediately after coming up, had pain in the stomach and vomiting. In a few minutes pain in the legs, followed by paraplegia. On the following day he died.

Autopsy.—Showed slight engorgement of the lungs; brain, thoracic, and abdominal viscera normal. Spinal cord intensely congested; opposite the two lower dorsal vertebræ there was an extensive effusion of blood pressing on the cord.

CASE XVI. (Smith's, No. 2).—Irishman, aged fifty. Worked half an hour more than usual, pressure being thirty-four pounds. Before leaving the lock he was found unconscious. Convulsions set in, and he died nine hours after the attack.

Autopsy.—Showed all organs healthy except the kidneys, which are the seat of marked Bright's disease.

CASE XVII. (Smith's, No. 3).—A German, aged forty. Stout, heavy build. It was his first day at work. He worked two and a half hours, the pressure being thirty-four pounds. One hour after coming up, he first complained of not feeling well. He ascended the stairs of his house, sank down insensible, and died.

Autopsy.—Brain, heart, kidneys, larynx, normal. The lungs were remarkably congested. The spinal canal was not opened.

CASE XVIII. (Jaminet's,[99] No. 1).—An Irishman, aged thirty-five. He worked once in the caisson for two hours. Died after nine days' sickness.

Autopsy.—The spinal cord was first opened; in dissecting down in the dorsal muscles, the veins were found to be very numerous, and distended with dark and tarry blood. The vascularity signally increased with the approach to the spine. The dura mater was very vascular; the canal contained a large amount of serum. Near the cauda, a moderately sized vein was completely thrombosed. The arachnoid of cord and brain was intensely vascular. Their structure succulent. The right heart was filled with coagulated fibrin. Posteriorly the lungs were the seat of hypostatic congestion. The kidneys were congested and contained hemorrhages. About the bladder was extravasated blood without any mechanical lesion. Intestines, liver, and spleen were hypostatically congested, with extravasation of blood.

CASE XIX. (Jaminet's, No. 2).—A German, aged twenty-two. Worked for the first time, for two hours. Died in thirteen days.

Autopsy.—The brain and spinal cord were highly congested, the latter being softened in many places to a pulpy consistency. More than a normal amount of fluid in the canal. Small clots of extravasated blood on the dura. All the abdominal viscera were surcharged with blood, the lungs suffering less in this respect than any of the other organs. There were clots of blood found in both kidneys.

CASE XX. (Jaminet's, No. 3).—A German, aged twenty-seven. Died the following day.

Autopsy.—The whole contents of the cranium were found highly congested. Blood oozed freely from the substance of the brain on section. The spinal cord showed conditions similar to those of the brain, with the addition of clots of extravasated blood on different parts of the dura. There were congestions of the thoracic and abdominal viscera, with extravasation of blood in the kidneys.

CASE XXI. (Jaminet's, No. 4).—A German, aged twenty-one. Died on the next day.

Autopsy.—The contents of the cranium and substance of the brain were found overcharged with blood. The same condition existed in the spinal canal. All the

thoracic and abdominal viscera were intensely congested, clots of extravasated blood were found in the kidneys.

CASE XXII. (Jaminet's, No. 5).—American, aged twenty-two. Died on the eleventh day.

Autopsy.—The brain and spinal cord, and its meninges, were found congested. The intestines and peritoneum were highly inflamed.

CASE XXIII. (Jaminet's, No. 6).—Native of Denmark, aged twenty-eight. Worked for the first time a two-hours shift under a pressure of forty pounds. Taken sick at once. Paralysis of both legs and left arm and bladder. Lived four weeks.

Autopsy.—Pia of brain congested; increased amount of serum in ventricles. Spinal column not opened. The right ventricle contained a large clot; liver nutmeg color. Spleen very large. Kidneys large, and contained gangrenous patches.

CASE XXIV. (Jaminet's, No. 7).—A German, aged thirty. Worked one hour at a pressure of forty-nine pounds. Taken sick at once on coming out, became insensible, and died in two hours.

Autopsy.—Brain and membranes congested. The spinal canal was not opened. The other organs were normal.

CASE XXV. (Cotsonopoulos's[25]).—A. N—— , Greek, aged thirty. Sponge diver. He had been diving for sponges, at a depth of one hundred and fifty feet. Immediately after rising he experienced great pain and heaviness in his legs, developing in an hour to complete paraplegia of the lower extremities, and also paralysis of the bladder and rectum. He developed cystitis and a bedsore, and died on the fortieth day.

Autopsy.—The veins in the spinal canal were markedly congested, with some extravasation of blood. On section, the lumbar and upper dorsal regions were soft.

Summary of the Autopsies.—Seven of the cases (Nos. III., V., VI., VII., XVI., XVII., and XXIV.) might be termed *foudroyant*, death occurring in from fifteen minutes to nine hours. The spinal cord was found softened in the one case in which it was examined. In five cases the brain was examined; it was congested in two, normal in three. The kidneys, spleen, liver, and lungs were congested in three cases, normal in two. In two of the cases, air was observed in the veins. One had marked Bright's disease. One was a drinker, the habits of the others not being stated. The average age of the men was thirty-eight years. The pressure under which they worked varied from two to four atmospheres.

Six cases were *acute* (Nos. IV., XI., XII., XV., XX., and XXI.), death occurring within a week. The spinal cord was congested or soft in all. The brain and all the internal organs congested in five. The average age of the men was twenty-eight years, nearly ten years younger than the first set. In three of the cases there was serous effusion in the spinal canal, and in four extravasations of blood on the dura of the cord.

In the subacute cases (Nos. IX., XVIII., XIX., and XXVI.), in which the men died between the first and second week, the spinal cord was found congested in all the cases, and the brain was congested in the three cases in which it was examined. Effusion of serum in the spinal canal was present twice. Cystitis and pyelitis occurred in two cases. The average age of the men was twenty-five.

The more chronic cases, those in which death took place between three weeks and three months (Nos. I., II., VIII., XIV., XXIII., XXV., and XXVII.), exhibited similar lesions to the preceding cases, *i.e.*, the cord was either congested or softened, the softening appearing usually in the lower dorsal or upper lumbar region, the abdominal organs were for the most part congested. Pyelitis, cystitis, and bedsores were the usual complications. The average age of these patients was twenty-eight.

From these, in many respects defective autopsies, it appears that the microscopic lesions consist in congestion or softening of the spinal cord (in all the cases in which it was examined); congestion of the brain (in 13 cases out of 16); and congestion of most of the internal organs (in 17 cases out of 22).

The Microscopic Examination of the Cords.—Important as is the information obtained from the macroscopic examination of the diseased organs, it cannot be compared in accuracy nor in fruitfulness to that derived from a careful microscopic examination of the diseased tissues, and it is to the absence of such careful microscopic examination that our ignorance in regard to the pathology of caisson disease is due. Strangely enough, previous to the case which I have examined and which forms the basis of this paper, in two cases only of this disease had the spinal cord ever been subjected to a microscopic examination. The great importance of these cases in any discussion on the pathology of caisson disease, and the fact that they are published in a foreign language, warrants me in introducing a brief report of them here.

CASE XXVI. (Leyden's[27]).—The patient, K——, aged twenty, on July 26, 1879, had been working under a pressure of three atmospheres. He felt well until half an hour had elapsed after coming out of the caisson; then he experienced a feeling of pressure in the heart region, together with some dyspnœa. He fell to the ground and was unable to move his legs. His belly was much retracted. Retention of urine was at once developed.

August 1st.—The patient can slightly rotate the left leg, the reflexes are faintly present. His urine is bloody.

August 3d — His appetite is poor; he is emaciating rapidly, his pulse is small and rapid, and he feels weak. His urine is opaque, bloody, alkaline, and albuminous.

August 8th.—Death after fifteen days.

Autopsy (eleven hours after death).—The veins of the cord and meninges were congested. There was a considerable amount of clear fluid within the canal. On section of the cord the color was normal; the white substance projected in some places markedly on the cut surface. There were no evidences of hemorrhage to be found. The brain was normal, as were also the heart and lungs. The kidneys were large and hyperæmic; in the cortex were many small abscesses; in the pelvis there was a fluid holding pus; the bladder was thick and contained much pus and mucus.

Examination of the Cord Macroscopically.—The cervical and lumbar regions of the cord were normal. The dorsal regions presented a spotted appearance, the spots being of a yellowish color. The posterior columns and the posterior part of the lateral columns were the tracts most affected. The affected area of the cord occupied a space of about 10 ctm., its point of maximum intensity being in the middle, and gradually decreasing to the extremities. In the region of greatest change were found large sharply-bounded, irregularly oval areas. On cutting sections of the cord these spots were apt to fall out and crumble.

Examination Microscopically.—These long spots consisted of heaps of large round cells. In the posterior columns they seem to push aside the nerve-elements and lay in a slit; in these slits there was no nerve-tissue and no neuroglia, only the cells and small normal blood-vessels. There was no hemorrhage. The cells were round, the size of pus-cells, with nuclei, and mostly without fat. There was no pigment in the neighborhood of the cells. All about these spots the nerve-fibres were enlarged and swollen, and contained empty spaces. This appearance was, in some places, a small zone only around the area of cells; in other places it affected almost the whole of the posterior columns. The posterior part of the lateral columns had much the same appearance. The anterior part of the lateral columns and the anterior columns were here and there affected. The lesion of the cord, except the spots of cells, was an intense, fresh parenchymatous myelitis.

CASE XXVII. (Schultze's[28]).—The patient, a healthy Italian, aged eighteen, was accustomed to the work. One day, under a pressure of 1.8 atmosphere, he worked

eighteen hours. On this day he worked six hours under a pressure of three atmospheres. Soon after leaving the caisson he experienced pain in both ankles, in about twenty minutes there was complete paraplegia of the legs. This was accompanied by retention of urine and constipation. Sensibility was diminished as high as the navel. The neck and spinal columns were tender to the touch. Sensibility improved somewhat, but cystitis and pyelitis set in, and his paraplegia did not improve. At the end of two and a half months he died.

Autopsy.—The meninges of both brain and cord were normal, as was also the brain itself. Externally the cord looked normal. After being hardened in Müller's fluid it was cut.

Examination of the Cord Macroscopically.—The greatest change was found to be in the lower dorsal region; beginning about one inch above the commencement of the lumbar enlargement, and extending to the middle of the dorsal region. In the posterior and lateral columns were found irregular whitish spots. In several parts of the lateral columns the substance seemed friable. There spots of changed color were found, sometimes in the posterior columns alone, sometimes in one or other of the lateral columns, under many combinations and forms. The gray substance appeared normal. In general, macroscopically there seems to be a disseminated degeneration of the white columns, of the dorsal region of the cord. In the lumbar enlargement there is a typical degeneration of the pyramidal tracts, and above the lesion there is an ascending degeneration of the columns of Goll and the direct cerebellar tract.

Examination Microscopically.—The pia and arachnoid are normal. There is no infiltration of cells anywhere in the cord. In no part is there full destruction of all the nerve-substance. In a strict sense there is no transverse myelitis. In the intensely degenerated part there is no complete abolition of nerve-elements; one sees a mass of fibres of not clear contours, somewhat transparent, and some closely packed cells the size of pus-cells, containing one or more nuclei. The blood-vessels, especially in the periphery of the lateral columns and in the areas of secondary degeneration, are markedly thickened, with the adventitia rich with cells. The gray substance in the cervical and lumbar region is normal; in the dorsal, on one side, in quite a circumscribed part there is degeneration. On the border of the posterior and anterior horns, at the height of the white commissure, there is a circumscribed spot that consists of felted glia tissue. Around some large blood-vessels there are spots containing small cells with or without nuclei, looking like the granular disintegration of Lockhardt and Clark. From extravasation, blood-pigment, or hæmatin there is absolutely no sign.

Summary of the Microscopic Examinations of the Cord.—The microscopic lesions found in these two cases (with the exception, in Leyden's case, of the breaks in the continuity of tissue filled with nucleated cells and normal blood-vessels) are almost identical with those found in my case, and permit the conclusion that most, if not all, cases of caisson disease are due to lesion of the cord, which attains its greatest intensity in the lower dorsal region, and which attacks the white matter rather than the gray, and which is of a degenerative nature, or due to a diffuse parenchymatous myelitis. The greatest amount of degeneration occurs in the posterior and adjacent portion of the lateral columns, diminishing anteriorly so that the anterior columns are but slightly affected; the gray matter being for the most part normal. Even in the most intensely degenerated portion there is no total destruction of all the nerve-substance. Above and below this area of disease in the lower dorsal region are, respectively, the usual ascending degenerations of the columns of Goll and the direct cerebellar tract, and descending degenerations of the pyramidal tract. In the substance of the cord no evidence of hemorrhage could be found.

Critical Discussion of the Theories.—The following theories as to the pathology of the caisson disease have been condensed as much as is consistent with clearness, but are sufficient as forming a basis on which we are enabled to discuss them intelligently.

All the theories naturally group themselves under three general heads, as follows,

I. The theory of exhaustion and cold.

II. The gaseous theory.

III. The theory of congestion with sequelæ.

The sequelæ under this last head are of five distinct kinds, and they appear during the period of removal of pressure. They are:

a. "Black blood." *i.e.*, blood deprived of its oxygen.

b. Evolution of gas in the blood-vessels.

c. Hemorrhage.

d. Acute revulsive anæmia.

e. Comparative stasis.

I. The Theory of Exhaustion and Cold.—This theory has for its exponents Bouhy, Barella, Lampadarios, Jaminet, and Woodward.

Bouhy,[10] and Triger,[11] in 1848, Barella,[8] in 1861, and Lampadarios,[61] thought that the pains produced were of a rheumatic nature due to the rapid chilling of the air on the workmen tired and bathed with sweat.

They however did not see the disease in all its intensity.

Jaminet,[60] in 1871, saw many serious and some fatal cases, and from his study of the disease draws these conclusions: "That exhaustion of the system under certain circumstances has been, with a very few exceptions, the cause of what has been called 'bridge cases.' As to the cause of the immediate paresis of paralysis happening on the men, they are not the result of inflammation of the brain or of the spinal cord, which could not yet have taken place, but exist only as a result of a too sudden or too strong reaction, succeeding to a general depression of the system, which is occasioned by too long a sojourn in a condensed atmosphere, and then paresis or paralysis is but the result of reflex action, caused by the spontaneous refrigeration of the whole system, but principally of all the abdominal organs."

Woodward,[118] as late as 1881, maintains that "The vital energies of the men taken sick were to a great extent paralyzed by loss of heat." This loss was due:

"1. To the expansion of the air in the lock while coming out.

"2. To the liberation of the gases held in solution, by the liquids of the body.

"3. To the expansion of the free gases and vapors in the body, when relieved of the abdominal pressure.

"4. To the severe physical strain of climbing the stairs."

This theory is insufficient to explain the phenomena observed. It must happen in this climate, every winter, that persons become more exposed to exhaustion and cold combined than do those working in the caisson. Yet such exposure does not produce such a complex of symptoms as is characteristic of the caisson disease.

II. The Gaseous Theory.—The theory of Bouchard[9] may be mentioned under this head. He states that gas is normally always present in the intestine. This gas becomes compressed by increased air-pressure, its volume being inversely as the intensity of the compression. That is, the volume of the abdomen will become four times less, if the pressure is four atmospheres, and the abdominal wall will be pressed against the vertebræ. Now, the abdominal wall is not an inert, but an elastic, partition, and tends by its tonicity and elasticity to expand. Bouchard maintains that in its expansion it reduces the pressure on the organs within it, and creates more or less of a vacuum; and so, acting as an enormous cupping-glass, it accumulates the blood from other parts of the body to itself, producing in them a profound anæmia, and in the abdominal organs a corresponding repletion. Then, at the moment of the withdrawal of pressure the intestinal gases resume their volume and distend the abdominal walls, and thus compress the various abdominal organs and blood-vessels, and push the blood stored up in them into the various other organs of the body, whose

vessels are deprived of their tonic elasticity by the variation of atmospheric pressure; and these latter, unable to resist the sudden irruption of blood, burst and produce the hemorrhages.

This theory of the action of the intestinal gases occupies a unique position, and is almost too whimsical to be discussed. Suffice it to say that, clinically, not a dozen of the several hundred cases that have been recorded have shown this symptom of abdominal distention. And besides, as external pressure increases, the gases in the stomach and intestines would assuredly seek their natural and easy exits; so that by the time atmospheric pressure became considerable, the intestine would be practically free from gas. Then again, hemorrhage is an infrequent complication, and not the real lesion.

The theory of the formation of gas in the blood has, in one form or another, numerous advocates. They are: Bert,[4, 5, 6] Boyle,[13] Cassait,[15] Catsaris,[16] Feltz,[57] François,[59] Gaveret,[42] Hoppe,[58] Leyden,[67] Leroy de Méricourt,[76] Musschenbroek,[80] and Rameaux.

Numerically this theory is the strongest; and fortified by numerous and convincing experiments, its upholders have presented their arguments with marked ability and great force.

As early as 1670, Robert Boyle, while experimenting with animals in the air-pump, ascertained that by rapidly exhausting the air in the air-chamber, bubbles of gas were found in the blood, and stated that animals in this condition died more rapidly than if they were simply deprived of oxygen. A century later, Musschenbroek, in 1755, confirmed these experiments on animals in a vacuum.

Hoppe, in 1847, still a hundred years later, made a series of experiments in the same direction, and states that death is caused by obstruction of the capillaries of the lungs by the bubbles of air, or by the arrest of circulation.

Of all the experimenters in this line, a Frenchman, Paul Bert, has been far more active and ingenious in his experimentation than any other, and has left behind him a large and valuable work on the subject. He agrees with his predecessors of the gaseous theory, that gas is set free, but says that it is not oxygen, but nitrogen returning again to the free condition that causes the mischief.

Bert's experiments,[4, 5, 6] which the members of the French school quote to substantiate their theory, are misleading, and cannot be applied to human beings. They were conducted on animals under a pressure of from six to nine atmospheres, the pressure being suddenly withdrawn. Below five atmospheres no symptoms were produced with rapid withdrawal of pressure, and if at five atmospheres three minutes were allowed for the removal of pressure, no air-bubbles formed in the vessels.

Now, in the United States at least, workmen have never been subjected to a pressure as high as five additional atmospheres, and the time of locking-out here occupies from three to eight minutes or more. Yet symptoms are frequent, and death has occurred after a pressure of two atmospheres.

According to Bert's experiments, then, no gas would have formed in these cases; and as a matter of fact no air has been found in the blood-vessels of any of the sixteen men who died from the caisson disease in this country, and on whom autopsies were made.

Catsaris,[16] a Greek professor of medicine at Athens, is the most recent author on the subject. He has just finished publishing an interesting series of articles on the symptoms as they appear among the divers for sponges near Greece.

He is an enthusiastic upholder of the theory of the formation of gas in the blood, and has made many experiments to prove his statement. He decries in toto the theory of congestions and their sequelæ. In this connection he says: "It is useless to remark that it is an erroneous doctrine." Again, he states that "physiology gives its death-blow to this theory. She teaches that barometric pressure has no direct influence on the liquids of the organism, and equilibrium of pressure exists throughout the entire mass of blood. The absolute incompressibility of our liquids gives then a refutation of that theory of the physical compression of the external tissues."

Catsaris has recognized that the experiments of Bert do not apply very well to the conditions under which workmen ordinarily work. Therefore, he has made some experiments with dogs, reproducing the same conditions under which men working in compressed air are subjected. He shut the dogs up in the divers' apparatus, and let them down in the sea to the same depth, and for the same time, and removed the pressure as rapidly as is customary among the workmen.

The following experiments are condensed from his reports:

1. A dog was immersed in twenty-eight fathoms for half an hour, removal of surplus air-pressure occupied forty seconds. On first emerging he was perfectly well. After thirteen minutes he began to stagger, and five minutes later his hind-legs commenced to be paralyzed; which paralysis was complete on the following day. On the second day after the immersion, his symptoms remaining the same, he was killed. Advanced softening of the cord in the region of the lumbar enlargements was found. The lateral and posterior columns, especially on the right side, were colored a yellowish gray; a little below this region, transverse sections showed the gray matter to be red; the posterior horn on the left side a spotted red. Above this section the gray matter was uniformly red, but without softening of the white matter. The rest of the cord is firm. There is no congestion. By the aid of a magnifying-glass, one could see certain bubbles of gas in the middle of the soft portion. Air comes out of these vessels surrounding the necrotic part. Gas could not be found elsewhere.

2. This animal was kept an hour in a depth of twenty-five fathoms; withdrawal of pressure took fifty seconds. Thirteen minutes after coming out he commenced to drag the left leg; five minutes later it was completely paralyzed; sensibility was preserved on the paralyzed side, but was obtuse on the right side. There was no paralysis of the sphincters. Half an hour later he commenced to get back the use of his leg, and sensibility also returned; twenty minutes later he had completely recovered. He was then killed. On opening the ventricles a certain number of gas-bubbles came out of the left, much less from the right. Transverse section of the cord showed in the left half of the upper lumbar region, by the aid of the magnifying-glass, bubbles of gas obliterating the blood-vessels; one could find the bubbles in the tissue of the cord also, they were present to a very slight extent on the right side. In no other region of the spinal cord could they be seen.

3. This animal was immersed in twenty-three fathoms for an hour and a half. Removal of pressure one minute. Six and a half hours later, no accident following, the dog was killed, and by the aid of a lens small bubbles of gas could be found in many parts of the blood-vessels.

Thus, in these three cases, and in fact in all the cases in which he experimented and killed, the necroscopy showed bubbles of air in the vessels. Now, these bubbles, some of which could be seen with the naked eye and others by the aid of a magnifying glass, even after two days, must all of them have been of considerable size; that is, large enough to block the small arteries, as the capillaries are invisible even with the aid of a simple lens. They must have all been formed within one minute, the longest period recorded for the withdrawal of pressure, and they must have been formed suddenly all over the body. If they produced any effect at all, it must have come on at once, and circulation in the capillaries throughout the body must have suddenly ceased. In that case death should have been sudden. Nothing of the kind occurred. In one, death did not occur for two

days, another recovered in an hour, and the third suffered no symptoms; yet gas was found in all. If gas was found at the seat of lesion in the case that so rapidly recovered it must still have been blocking up the arteries, and the lesion still should have increased and have become worse. How then could this gas have been the eminent factor in the etiology? Why does this gas, that is produced all over the arterial system, confine its pathological effects to the lower part of the cord? One would expect the functions centring or passing through the medulla to be equally as markedly interfered with, but this is not the case. As the gas is formed everywhere, it must also form in the coronary arteries and interfere with the nourishment of the heart, and produce very marked irregularities of its action. Clinically we know that this does not happen.

The advocates of this theory have not attempted to explain why it wreaks its vengeance principally on the lower part of the cord.

Let us examine now a little more closely the quantity of gas dissolved in the blood. An experiment by Smith,[103] in this connection, is interesting and instructive. He says: "The pressure in the caisson being about thirty-five pounds, a dog was sent down, and allowed to remain seven hours in the compressed air. At the end of that time I went down and, after killing the animal with prussic acid, I opened the vessels of the neck and allowed four ounces of the fluid to flow into a six-ounce vial. The space above the blood was then completely filled with olive-oil, and a cork, pierced by one leg of a V-shaped tube, was forced tightly into the bottle, displacing a portion of the oil, which escaped through the tube. By this arrangement every particle of air was excluded from the apparatus, even the tube which extended a little below the cork being filled with oil. The object of the oil was to avoid the difficulty which would arise from coagulation of the blood in the tube if blood only were employed.

The apparatus was then taken into the open air. While passing through the lock five minims of oil escaped from the tube, which amount was increased during the next half-hour to eight minims. The temperature of the caisson and that of the external air were almost exactly alike, so that the result obtained could not be influenced by contraction or expansion due to temperature. The eight minims, therefore, represented the bulk of air which was disengaged from the blood in consequence of the removal of the excess of pressure."

Magnin,[71] Couty,[29] Petit,[84] Feltz,[37] Demarquay, and many others have shown that very large quantities of air can be slowly introduced into the veins without producing any effect. As high as 750 to 1,200 c.c. have been injected into the veins of medium-sized dogs without producing even syncope.

The advocates of the theory of formation of gas in the blood-vessels recognize this fact, and state that the amount of gas formed in the veins is immaterial; but that it is the gas in the arteries that causes the trouble.

Experiments on the introduction of air in the arteries are much less numerous than those of air in the veins. But Petit[84] says, "A very large amount of air injected into the aortic system produces syncope and convulsions, symptoms resulting from the stoppage of the blood-current."

From the experiment by Smith, just given, we see that the actual amount of gas stored up in the blood is very small. That is, in 120 c.c. of blood, there was only ½ c.c. of air developed, and this was, of course, not developed instantly; and it was formed in the veins as well as in the arteries; one-half only of this small quantity was present in the arterial system. It seems impossible that such a small proportion of air could produce so much mischief; especially when we consider the fact that gaseous emboli are not hard bodies becoming impacted in the vessels, but are soft and elastic, and must allow a considerable stream of blood to pass along their sides.

Catsaris and others of the gaseous theory recognize that length of sojourn under compression is an important etiological factor in producing the disease, but their reasoning from the fact is false. For instance, Catsaris exposed a number of dogs in the diving-suit at certain depths—eighteen to twenty-three fathoms—for from five to fifteen minutes, the withdrawal of pressure occupying one minute, it being the same in all cases. No accidents happened to the dogs in any of the tests. Then, employing the same dogs, he allowed them to remain under water from an hour to two hours and a half, the other conditions being the same. It was found in this series, that all the animals suffered from paralysis of the hind-legs, some speedily recovering and others dying. He reasons from this that the longer they remain under pressure, the more gas is dissolved, so that at the moment of removal of pressure more gas is suddenly set free, causing greater wreck. That cannot be so according to Dalton's law, which says, that with a given temperature "the weight of gas dissolved by a given volume of liquid is directly proportional to the pressure the free gas exerts on the liquid." Therefore, as soon as a liquid at a given temperature and pressure becomes saturated, length of time is no further factor. Now, as the blood circulates so rapidly in the vessels, it must have had abundant time to become saturated in its passage through the lungs before the expiration of the five to fifteen minutes occupied in the first set of experiments; and besides, we must add a minute or two to each of the above experiments during which the animals were descending to the depth of from one hundred and ten to one hundred and forty feet, and during which time, of course, the pressure was steadily increasing.

Smith proved that blood will part with five-eighths of its surplus air during the period of withdrawal of pressure, and of course it will absorb it as rapidly during the increased pressure, or even more so, because normally the blood is in rapid circulation, while in his experiment the blood had been withdrawn from the body. The blood, then, in Catsaris's first series of experiments being saturated, and producing no symptoms on rapid removal of pressure, we must look elsewhere for an explanation of the morbid phenomena produced by the long sojourn under pressure. This will be given when we come to study the effects of congestion. If Dalton's law is true, which I think no one doubts, it must apply equally as well to birds and amphibious animals as to mammals.

Now, let us see what experimenters have found. Hoppe[58] made experiments both in mammals and in amphibious animals; and found that while mammals rapidly succumbed after rapid removal of a certain pressure, yet amphibious animals did not; and that it took a much higher pressure to produce given effects in them than it did in the warm blooded animals. The only explanation he could give that the amphibious animals did not follow Dalton's law was, that they are cold-blooded. This reasoning is weak, but let us accept it a moment. We know that the birds are warmer-blooded than mammals, and so using Hoppe's argument that the warmer the blood the more rapidly is the animal affected, the former should be affected quicker by pressure than the latter. What, however, is the fact? Burt experimented on birds as well as animals, and was surprised to find that while mammals began to show effects at six atmospheres, and nearly all at eight, and that none could withstand nine atmospheres, yet birds could withstand ten, and it took a long time, even at a pressure as high as fourteen atmospheres, to subdue them.

Classes of animals like birds and amphibious animals, though they are widely separated as regards blood-temperature, are yet accustomed by their manner of life to sudden variations of pressure; and so, as might be expected, are but little or not at all affected by sudden artificial change of atmospheric pressure, which animals living continuously under the same pressure are unable to withstand. And even among individuals of the same class, for instance among men, clinical experience has

shown that individuals show marked difference in their ability to withstand the same pressure.

Now, the theory of the formation of gas in the blood being a mechanical one, following the law of Dalton, all vertebrates should suffer equally at given pressures under like conditions. This has just been proved not to be the case, so we have a right to deduce (1) that the temperature of the blood has nothing to do with the ability of an animal to withstand high pressures; (2) that the theory of the formation of gas in the blood is insufficient to be the sole, or even the main cause for the pathological effects produced.

(To be continued.)

CRYSTALLINE FORMS OCCURRING IN KOCH'S TUBERCULIN.

By JOHN C. HEMMETER, M.D., PHIL.D.,

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THE subject of the animal alkaloids produced by pathogenic bacteria in different forms of disease is one of great importance. This is particularly true of the products of the bacillus of tuberculosis; a large field is open to investigators in this direction. Failure on the part of most previous investigators to find a chemical poison in pure cultures of tubercle bacilli may, as S. Martin [1] has pointed out, be due to the fact that they employed substances like beef-tea, glycerine, glycerine agar-agar, and glycerine broth, which are not met with in the animal body. Martin has shown that glycerine is not necessary at all, and an exuberant cultivation could be obtained if alkali albumin is used with an amount of salts added in proportion to those of serum. It seems unnecessary to use any other products than those found in the body, and alkali albumin is the nearest approach to a natural medium that can be sterilized and handled with convenience.

Koch has not informed us what culture-medium he uses in the preparation of tuberculin, but it is probable that it resembles that suggested by S. Martin in composition. Dr. A. Libbertz informs us that blood-serum, which was stated to be the medium used in the preparation of tuberculin, is not employed by Koch. Concerning the manner in which tuberculin is made, we know nothing more to-day than at the time of Koch's publication concerning its composition. We are told that it is derived from a pure culture of tubercle bacilli, by extracting it with a fifty per cent. solution of glycerine; that it contains a certain quantity of mineral salts, coloring substances, and other unknown extractive matters. That the effective substance in tuberculin is insoluble in absolute alcohol, by which it can be precipitated, though not, indeed, in a pure condition, but still combined with the other extractive matter. Regarding the constitution of the more effective substances, Koch gives us no exact information. He supposes them to have a close affinity to the albuminous bodies, but that they do not belong to the group of so-called toxalbumins, because they bear high temperatures and in the dialyzer go easily and quickly through the membrane. The proportion of the effective substance in the extract is estimated at fractions of one per cent.

The fact that the exact composition of the culture-medium is not given is unsatisfactory. But from the fact that in the statement of the composition of the lymph "a certain quantity of mineral salts" is referred to, we infer that these salts were originally contained in the culture-medium to which they were added to approach the composition of serum. These salts could be derived only from two sources, either from the culture-medium or from the bacilli themselves; no other factors enter into the composition of a pure culture. At the clinic of Nothnagel a most careful investigation of the chemical composition of the tubercle bacillus has been carried out by Dr. Hammerschlag, who had begun his studies on the bacillus at Professor Nencki's chemical laboratory at Berne. It is not feasible for us to enter into the methods and complete results of this analytical study: what concerns us here is that mineral salts are not mentioned as constituting a part of the bacilli. If such salts occur in tuberculin they are therefore derived from the culture-medium, not from the bacilli; nor can they be a product of the activity of the bacilli in the medium.

In attempts to separate out crystalline bodies from organic mixtures, such as glycerine extracts of bacterial cultures,[1] the probability of recrystallization of the salts occurring in the culture-medium must be borne in mind.

The crystalline forms of all salts that could possibly occur or be used in the ordinary culture-media, we must be familiar with, lest such bodies be mistaken for an alkaloid of bacterial origin. To eliminate blood-serum as one of the possible culture-media used in the preparation of tuberculin, Mr. Theodore Hough and myself had, before Libbertz's letter was received, made spectroscopic studies of tuberculin in the biological laboratory of the Johns Hopkins University, with a view to recognizing in the spectrum the absorption bands of oxyo or reduced hæmoglobin, or of hæmatin (alkaline); but our results were negative.

The literature on the chemical composition of tuberculin is limited; we are familiar with two analyses. One by Schnitzler, of Vienna (London *Lancet*, December, 1890), who concludes that besides peptones the main active substances in it are protein bodies allied to toxalbumins. His analysis was made during a period when tuberculin was a rare thing, and he could not obtain enough of it to shake the liquid with ether and alcohol to separate the alkaloids, if present, from the albuminoids. Schnitzler asserts, however, that acid bichromate of potassium, which reveals the presence of alkaloids and ptomaïnes even when mixed with albuminoids, failed to give any reaction, so that the absence of alkaloids and ptomaïnes were taken for granted.

The second analysis which has come to our notice is not one of tuberculin, it is true, but of prepared liquid cultures of tubercle bacilli.[2] Crookshank found, according to the stage of the cultivation, a complex proteid substance, or this substance with free ptomaïne, or ptomaïne alone, and concludes that the tubercle bacillus produces a complex proteid poison, in which, as in anthrax, the alkaloid of tubercle exists in a nascent condition. Dr. Sidney Martin, who has given us many valuable contributions concerning the toxic products of the bacillus anthracis, was not convinced that the reactions of Professor Crookshank proved that an alkaloid was present in pure cultures of tubercle bacilli.

About the end of February, 1891, I discovered definite crystalline forms in a specimen of tuberculin which had been received from Dr. A. Libbertz, of Berlin, and which had been allowed to evaporate over concentrated sulphuric acid for two months. This process of evaporation might be accelerated if it is allowed to go on in a vacuum. In one specimen of tuberculin the crystals were obtained after simple evaporation, without employing the sulphuric acid. After studying the crystalline forms of all salts that might possibly be employed in culture-media, or occur as a constituent of such, I concluded that the crystals were not derived from the medium that had been used. Dr. A. Libbertz, with whom I communicated concerning these crystals, confirmed their existence in tuberculin, but admitted in his reply that their nature and composition were perfectly unknown to him; which strengthened my view that they could not be derived from the culture-medium, nor had been added, as some supposed, to preserve the solution. More light concerning their real nature was obtained when we injected diluted solutions of

[1] Proc. Roy. Soc., May 22, 1890.

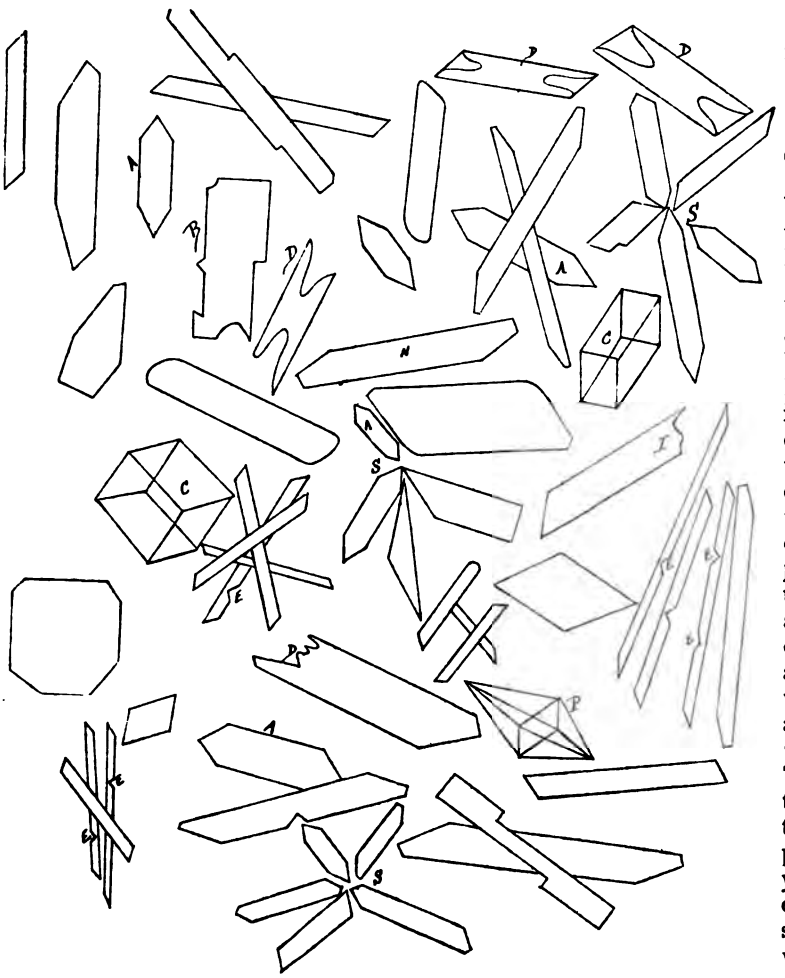
[1] Either by the Stas-Otto process, or Brieger's method.

[2] Crookshank: London Pathological Society, February 14, 1891. See also MEDICAL RECORD, March 7, 1891, p. 299.

these crystals into guinea-pigs, and subjected them to various chemical tests.

These crystals can be obtained from tuberculin: 1. By simple prolonged evaporation in sunlight under aseptic precautions. 2. By evaporation over concentrated sulphuric acid, if possible in vacuo. 3. By dialysis, using distilled water slightly acidulated with sulphuric acid; after eight days' dialyzing, evaporating, and recrystallzing, owing to the large amount of water which is necessary in this method, only traces of crystals could be found, even after evaporation. 4. By the Stas-Otto process of separating alkaloids.[1]

The crystals which I have found in Koch's tuberculin are colorless, and, as shown in the accompanying cut, vary much in size, configurations, and dimensions. The figures of the crystals accompanying this report are not drawn to scale. The crystals like those marked *A* in the drawing have been found to vary in length from .00375 to .0225 micromillimetres, and from .0026 to .01125 micromillimetres in breadth. Crystals having the shape of an oblique parallelogram, like the one marked *H* in the drawing, with the two acute angles at opposite ends of the longest axis bluntly cut off, simulating very much certain crystalline forms of inosite, vary in length from .044 to .01875 micromillimetres; and from .0075 to .01125 micromillimetres in breadth. The forms marked *D* in the diagram are not perfect crystals, but owe their peculiar shape to the disintegrating action of the solvent in which they were mounted, generally a saturated solution of glycerine. When observed on a glass-slide, in a drop of an evaporated specimen of tuberculin, the crystals exhibit a tendency to stellate or rosette grouping, *i.e.*, several crystals will be arranged so that their long axes are directed to one point like radii; this is shown at *S* in the diagram. The form *P* in the diagram was observed but once, and then the specimen was imperfect; it simulated an imperfect monoclinic pyramid, but the apex of one side was dissolved away and was added in the drawing; broken forms of this type, which is extremely small (.00375 m m. longest axis), were occasionally seen. Some of these broken pyramids were so small that it was impossible for us to recognize whether their bases were hexagonal or quadrangular. The forms marked *C* in the diagram are not perfect cubes, but their axes have one oblique intersection. By far the largest number of forms, if not all, belong to the monoclinic system of crystallization. The notches which appear punched out of the sides of the long slender crystals at *E*, are the results of mechanical compression of one crystal upon another. The odd form *B* is due partly to action of the solvent, partly to compression. These crystals are not present in all specimens of tuberculin in the same proportion. In one specimen, consisting of five grammes of tuberculin, 0.0059 grammes of crystalline structures were separable as hydrochlorides; from a second specimen 0.004 grammes were separated by the Stas-Otto method. The crystals, as such, when separated out simply by evaporation, are insoluble in water, but are soluble in dilute acid, forming a compound with the acid used, and can be reprecipitated by ammonia. Whether these crystals represent one or more chemical bodies, and what their chemical constitution is, are questions which at present we feel ourselves unable to grapple with. As already stated, some of the forms closely simulate crystals of inosite, which also crystallizes in large colorless monoclinic prisms, but in the crystals separable from tuberculin there are forms widely differing from those of inosite. We could only understand the occurrence of inosite in the tuberculin if meat-juice (bouillon) had been used as a culture-medium.



The crystals found by us have some of the properties of alkaloids. They are, in the first place, alkaline, insoluble in alcohol and water, soluble in dilute acids. Potassic or mercuric iodide produces a dirty, whitish precipitate, soluble in excess of reagent. Sodium phospho-molybdate causes a yellowish precipitate in solutions to which nitric acid in very small quantities has been added. The reactions with chloride of gold and platinic chloride were not convincing. The preparation of these crystals from tuberculin is too expensive a method as yet to encourage an exhausting chemical study. The crystals, when injected into the circulation of guinea-pigs, prove very poisonous. From five grammes of tuberculin 0.0062 gramme of the crystals had been obtained; they were converted in a solution with a drop of hydrochloric acid and five grammes of distilled water. We had thus restored the original bulk of the solution. Two centigrammes of this solution injected subcutaneously into guinea-pigs caused clonic spasms of the muscles, accelerated breathing, in one hour general convulsions, and death following in from six to twelve hours. Further aims in investigating this substance will be to determine, by preparing larger quantities, whether it is an alkaloid. If so, whether it can be separated from tuberculous tissues (lungs, glands, etc.). The physiological effects of solutions of these crystals in first, normal, second, tuberculous animals. These means may enable us to judge whether we are here dealing with a tuberculo-toxine.

In No. 22, vol. xvi., of the *Journal of the American Medical Association* (May 30, p. 788) Dr. Joseph Jones, of New Orleans, La., has contributed an article entitled "Observations on Koch's Lymph." Dr. Joseph Jones

[1] As modified by Stevenson, Watt's Dictionary, vol. i., 1888, art. Alkaloids, Poisonous.

states that he has found in tuberculin organisms which resembled and reacted to staining reagents like tubercle bacilli. He observed that the addition of a drop of the lymph to Pasteur's fluid was followed by the development of spores and slender, rod-shaped organisms resembling the bacillus of tuberculosis. Dr. J. Jones asserts that he has cultivated the spores and bacilli of Koch's lymph, with the necessary precautions to exclude external organisms, on various substances and culture-media. A small quantity of the lymph was added to a carefully sterilized solution of crystallizable sugar, and the clear solution became turbid from the development of bacilli.

These observations of Dr. J. Jones, if accurate, would be of ominous importance, and I made special efforts to detect these spores and tubercle bacilli in tuberculin while studying out the nature of the crystals just described. One hundred and twenty-four slides were studied, with a movable stage, Vernier scale, and micrometer —no organisms or spores were detected. It should be stated that special efforts were made to examine the sediment from the bottom of vessels that had stood undisturbed for months. I am able to confirm Dr. Karl von Ruck's observation, that five per cent. solutions of tuberculin will keep perfectly clear of bacterial developments for three weeks without especial aseptic precautions. Tuberculin inoculated into Pasteur's fluid sterilized caused no bacterial formations in my experience, and these experiments were done in my office, where aseptic methods are by no means as complete as in the laboratory.

I am indebted to Dr. Alfred Dohme, of this city, for his valuable assistance in determining the weight and quantities of the crystalline bodies before described.

THE PRIMARY CAUSE OF DEATH FOLLOWING BURNS OF THE SKIN, WITH THERAPEUTIC OBSERVATIONS.[1]

By S. LUSTGARTEN, M.D.,

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THE desire to solve the mystery which surrounds the primary cause of death in consequence of burns has brought forward a great number of theories. Some of these theories have been absolutely refuted. Among these are that of the congestion of internal organs, the suppression of skin respiration, ammoniæmia, the thickening of the blood, cooling, and the diminution of the activity of the heart. Other hypotheses, such, for example, as that of the destruction of the blood corpuscles, with possibly a simultaneous uræmic intoxication, find no clinical or anatomical support, and the same may be said of the theory of shock, the reflex lowering of the vascular tone, and that advanced by Sonnenburg, viz., the over-heating of the blood and the consequent paralysis of the heart.

It is not my intention to consider all the theories critically and in detail, the more as this has been recently done in a paper by Welti,[2] and in another by Silbermann.[3] The purpose of this paper is rather to present views differing from those named, which have forced themselves upon me, and which are supported by clinical observation and by a number, though small, of experimental and therapeutic results.

I was unfortunately prevented for a long time from continuing the investigations which I had begun with reference to this subject by circumstances connected with my coming to New York. The views to be advanced later, as far as they stand the test of scientific criticism and find confirmation, have, however, practical consequences, and this leads me to delay no longer with my publication. I have not been able to free myself from the idea that an intoxication lies at the bottom of the fatal symptoms following burns of the cutaneous surface.

Let us look briefly at the symptoms observed in these cases, considering only the typical and essential, and neglecting the rare complications, such as aneuria, nephritis, and ulceration of the duodenum. When the patient recovers from the immediate impression of fear of the flame or the heat he appears calm. Pulse and respiration are nearly normal, he answers promptly and clearly the questions asked, and describes his accident. The consciousness of a danger passed, as he believes at least, produces a feeling of well-being which is disturbed only by pain in the injured part. This relative euphoria lasts, according to the extent and severity of the injury, for hours, days, or in rare cases a fortnight. The picture then changes, and symptoms appear which, varying in the rapidity of their development, lead regularly to a lethal ending. (I know of but one exception to this course, and that I shall refer to later.) The patient then appears ill. From time to time he tosses about, his eyes do not seem to fix, his answers are slow, and his breathing is deep and sighing at times. This deep sighing is the first link in the chain of really ominous symptoms. Singultus soon appears, and following this, with the increasing restlessness of the patient comes vomiting, at intervals of several hours at first, and more frequently later. The temperature varies within some tenths (C.), the pupils are of average width or somewhat contracted, the respiration is rapid and superficial, and from time to time there is deep spasmodic inspiration. The general restlessness of the patient increases, he tosses from one side to the other regardless of the pain, and in a condition as of drunken excitement; he talks at random, cries out, clenches his fists, etc. The attempt to give him food gets to be more and more frequently followed by vomiting. When roused he is still able to answer the questions asked him, although slowly and only after deep thought; and he complains of a feeling of pressure in the region of the stomach. After a time the restlessness decreases, the muscles relax, the patient becomes drowsy so that he cannot be roused, and finally a sopor lasting an hour or more, interrupted by twitching, leads to a general paralysis.

If we suppose that shortly after the injury the absorption of an intoxicating substance begins and goes steadily on, the peculiar course of the symptoms is explained in a rational, unforced manner. First there is the free interval up to the appearance of the ominous symptoms, due to the fact that a certain time must elapse before the poisonous substance comes into action, and that a certain quantity of this substance must be formed in order to produce the objective symptoms. The length of this free interval stands in general in an inverse ratio to the intensity and extent of the injury. The symptoms which then come on are, first, those of irritation on the part of the vagus and the cerebral cortex, and these run their course, varying according to the extent of the burn. The stage of irritation is followed later, exactly as in the case of poisons like the alkaloids, by a state of paralysis, which finally closes the scene.

The idea of an intoxication has suggested itself to earlier observers,[1] but their theories, viz., the suppression of the perspiration of the skin, the poisoning by prussic acid, the ammoniæmia, and the auto-intoxication with fibrin ferment, have not gained general acceptance.

Whence, then, does this supposed poison come, and what is its nature? I should first remark that all my statements refer to burns which have caused death of the tissues—eschar. With this group I would include certain burns of the second degree, since experience has taught me that necrosis often occurs in such, although it is superficial beneath the bullæ which are formed. I exclude burns of the first degree altogether, since personally I have not seen death follow in such cases. But since such results are reported by accurate observers, I should

[1] Read before the New York Dermatological Society, April 28, 1891, and the New York German Medical Society, June 1, 1891.

[2] Ziegler u. Nauwerck: Beiträge., etc., vol. iv., 1889.

[3] Virchow's Arch., vol. xix., Heft 3.

[1] Edenbuizen, Catiano, Billroth, Mendel, Foa.

refer these rare cases, clinically different from the others, to other causes, such as shock, over-heating, or the lately-reintroduced idea of the alteration of constituents of the blood, and consecutive thrombus formation.[1]

My explanation supposes the formation of an eschar. Under the influence of the heat the skin loses its vitality. The temperature required for this is not necessarily a high one, since one of 60° to 70° C. is sufficient to destroy the vitality of living protoplasm. The temperature is generally higher than this, however, since unless its action were long continued the poor heat conduction of the horny layer would prevent injury to the deeper tissues. Under the influence of warmth the blood- and lymph-vessels dilate, and the skin becomes tense. With the requisite temperature there occurs coagulation of the blood, the lymph, and the protoplasm of the cells. We are not justified in supposing further chemical decomposition in a fresh so-called "white eschar." The eschar is closely connected with the surrounding unaffected tissues and cannot shrink, and if the temperature has not been so high or so long-continued as to cause charring, the eschar appears as a grayish-yellow insensitive mass, pervaded with brownish-red dendritic vessel-casts.

This dead mass now becomes in most cases the seat of decomposing processes. Micro-organisms of putrefaction, which, lying in the depths of the follicles, have escaped the action of the heat, or which have wandered in later, very soon begin their work; and, if the patient lives long enough, we see as the expression of this that the affected skin turns into a yellowish greasy pulp, swarming with micro-organisms, and is gradually cast off in shreddy layers. The conditions are especially favorable for the development of putrefaction. The dead mass lies in a thin layer on the surface, as in an incubator, and takes up water from the subjacent tissues by diffusion, and under these circumstances poisonous bases of putrefaction necessarily form. The conditions are most favorable, too, for the resorption of the bases, as long as the eschar does not fluidify under the influence of a peptonizing ferment, so that a portion of the poison is carried off in this manner.

What is the nature of these toxines? Analogy and the clinical aspect of the cases point unmistakably to a group to which belong neurin, muscarin, and the allied bases of similar action. These are derived from cholin, and Brieger, to whom we owe so much in this field, found them almost constantly in a number of putrefactive processes, as in decaying horse-flesh, fish, cheese, and in human cadavers. Their great virulency is indicated by the fact that 5 milligr. of muscarin cause severe symptoms of poisoning in man. It is further probable that the rich supply of oxygen to which the extensive superficial eschar is exposed, favors the development of a number of poisonous ptomaïnes. I conclude as much from the statement of Brieger, who in one experiment[2] was not able to isolate any poisonous matter from two hundred pounds of parts of cadavers which had been left to putrefy closely packed over each other; and he says: "The entrance of a certain amount of atmospheric oxygen seems to be necessary in order that the bacteria of putrefaction may produce virulent ptomaïnes."

The clinical picture sketched above also supports the idea of a poisoning with ptomaïnes similar to muscarin. Of the characteristic symptoms of the latter, we find present the irritation of the vagus, especially of the gastric plexus, the condition of excitement similar to drunkenness increasing often to raving, and possibly the spasm of accommodation. Wanting altogether, or exhibited in but slight degree, are the contraction of the pupil, generally uncertain in man; the slowing of the pulse, the increased flow of saliva, and the tetanus of the bowels. We must remember, however, that we have scarcely to do with a pure muscarin poisoning which should show all these symptoms, but with an intoxication from a mixture of bases similar to muscarin, yet in many respects differing from this in their action.

It is unfortunate for the comparison of the two, that the clinical picture after burns has been so incompletely studied, and exact observations are wanting as to the condition of the heart, the respiration, the pupil, the accommodation, the peripheral nerves, striped muscle, etc.

The acceptation of an intoxication from putrefactive poisons explains also a paradox, long recognized, but not explained by the other theories. This is the fact that deep burns which cause charring are relatively less dangerous than those which produce only white eschars. After the long-continued action of a high temperature, as for example that of a flame, either complete charring occurs, or a more or less deep browning, which means the impregnation of the tissue with antiseptic tar like products of dry distillation. In every case a tissue so changed is unadapted for undergoing putrefactive decomposition. It shrinks, becomes mummified, and is finally cast off by a demarcating inflammation. We see the same in cauterizations by concentrated sulphuric and hydrochloric acids, the eschars so formed being aseptic, and the importance of the case depending entirely upon the surgical injury; while in cauterizations with calx viva or caustic alkalies, the same points hold as in the case of white eschars.

In developing these views I undertook in one case (in Professor E. Ludwig's laboratory, in Vienna) the chemical examination of an eschar, with slight, although not negative, results. About one-third of the skin of the thigh, so burned as to form a white eschar, was subjected to Brieger's procedure ("Ptomaïnes," Part III.). The peptone-free aqueous extract, obtained by the alcoholic sublimate precipitation, showed the general ptomaïne reactions, but gave no marked poisonous reaction when applied to the heart of a frog, or injected into a rabbit. In explanation of the negative results, two points must be considered: First, the insufficient amount of the material obtained; second, the fact that the methods used are not adapted for small quantities, and this is especially true of the repeated employment of high temperatures for concentrating the extracts. Brieger's method is less well adapted for quantitative results than for isolating particular ptomaïnes, and for this, as a rule, larger quantities of the material are required. It seems to me that further examination of eschars would be followed by better results if experiments were made with alcoholic extracts, or a shaking process, which a greater amount of material would render easier, or with acid aqueous solutions at a low temperature. The latter procedure was used by Brieger and Fraenkel in getting the toxalbumine of the diphtheria and tetanus bacillus. (I was unable to complete a second examination because of my departure.)

As is known, there exists between atropine and muscarin a classic antagonism, in that atropine, when given in proper doses prophylactically, or after the muscarin intoxication, neutralizes the toxic symptoms by paralyzing the nervous apparatus which the muscarin has irritated. It seemed proper to make use of this physiological fact for a therapeutic experiment. At the Vienna Dermatological clinic a young girl was received with extensive burns of the second degree, and superficial burns of the third, caused by her clothing having taken fire. On the second day, the patient being in Hebra's water-bed, ominous symptoms came on, vomiting being the first. I began the subcutaneous injection of sulphate of atropine, and gave within two days five milligrammes. The vomiting ceased after the first injection, the threatening symptoms subsided, and the patient recovered. When it is remembered that Hebra, Sr., and Kaposi, with their extraordinary experience in this field, saw no case of burn recover when vomiting had once occurred, this single positive observation deserves particular attention, and appears adapted to support a theory *e juvantibus*.

In two other very severe cases atropine undoubtedly kept the vomiting in check for hours, and influenced the

[1] Welti, Silbermann.

[2] Ptomaïnes, iii., p. 26.

other symptoms favorably, without preventing, however, the lethal ending.

This therapeutic employment of atropine is to be considered a first experiment in combating, by means of physiological counter-poisons, the action of the toxic substances formed by decomposition processes and infectious diseases, by delaying the deleterious action of toxines, especially on the nervous system, until the organism shall have had time to overpower the injurious substances. The further development of such a rational therapy depends on the extension of our knowledge of the ptomaïnes in general, and this applies also to Brieger's theory, "that after learning the constitution of the ptomaïnes, we can introduce into the system atom groups which will combine with the injurious substances to form non-poisonous compounds."

From the great progress which our knowledge of the decomposition products of the micro-organisms has made in the last few years, we may conclude that the systematic realization of both these will soon come within the range of probability.

In conclusion I would offer some general reflections on the local therapy of burns, which are in part the results of my own experience, in part deductions from the views advanced above.

For the hopeless cases, Hebra's continuous bath best fulfils the sole indication, euthanasia; in cases in which the prognosis is doubtful, I do not consider its employment advisable, since warmth and moisture favor the development of putrefactive processes.[1]

The therapeutic efforts should be directed to the prevention in every possible way of putrefaction in the eschar. Whether this may be accomplished by antiseptics in a narrow sense, especially in the case of thick eschars, is questionable, apart from the danger of intoxication in the employment of antiseptics on a large extent of surface. Even iodoform, for which von Mosetig pleads so warmly, is not able to prevent, in most cases, the putrefactive fluidification of the necrotic skin. Notwithstanding this, experience speaks in favor of external disinfection with iodoform powder, and a gauze bandage without oiled silk. This treatment finds support again in the observation of Brieger, that iodoform prevents the formation of cadaverin in putrefaction; which observation demonstrates a marked influence of iodoform on the chemistry of putrefaction.

Another point worthy of consideration is the local abstraction of water in order to render the eschar dry. Dressings of hygroscopic powders, analogous to the mixture of plaster of Paris and tar, would commend themselves for trial, and especially combinations of magnesia perhaps with the addition of iodoform, or other antiseptics.

A mixture of one part magnes. carb. and two parts oleum rusci, which I have seen used by Dr. A. Hock in Vienna, for certain cases, seemed to me well adapted for this purpose.

Finally, a radical procedure, which as far as I know has not been undertaken, seems to be justifiable, that is, the surgical removal of the necrotic portion of the skin. The cases in which this would be done are especially injuries of small extent which show a tendency to follow a dangerous course. The surgical interference might be delayed until, in spite of local and internal therapy, singultus and vomiting come on, the ominous significance of which justifies any therapeutic expedient.

15 East Sixty-second Street.

The Population of France, according to the offiical census, is 38,095,150, an increase of only 208,584 since the previous census.

[1] I would remark incidentally that "Hebra's water-bed" does not seem to have come into so general use as it should. Besides the generally known indications, such as burns, carious processes, decubitus, etc., too little attention is given it (even in Vienna) in other directions, as, for example, in inflammatory and traumatic processes of the spinal cord and column, in which it secures the removal of the weight of the body, which is the chief desideratum.

Progress of Medical Science.

The Relation of the Weight of the Placenta to the Weight of the Child.—J. H. Smith, Assistant in the Frauen-klinic, Munich, took the opportunity of searching the records of five hundred births to obtain statistics regarding the relative weight of the child and the placenta; the results have been incorporated in a series of elaborate tables, from which he draws the following conclusions: The placenta being completed at the sixteenth week, a study of its relative size may begin approximately at the seventeenth week. In the cases observed, the average weight of the placenta to that of the child was one-third from the seventeenth to the thirty-second week. Between the thirty-second and thirty-third week the placenta attained its acme of weight, and remained stationary at this point unless influenced by derangements of the fœtal circulation, until birth at the fortieth week. Thus, during the thirty-third and thirty-fourth week the ratio remains one-third; during the thirty-fifth, thirty-sixth, and thirty-seventh weeks, it is one-fourth; in the thirty-eighth and thirty-ninth, one-fifth; and at the end of the thirty-ninth, two-ninths. From the end of the thirty-ninth week until birth, whether labor occurs at the fortieth week or is delayed until the forty-fourth, the ratio remains one-fifth. After the fortieth week the placenta seems to grow rapidly in multiparæ, or with women having large children, thereby raising the average from one fifth to one-fourth.—*The American Journal of the Medical Sciences*, July, 1891.

Incompatibles of Antipyrine.—According to Millard and Campbell, the following substances produce precipitates when added to aqueous solutions of antipyrine: Carbolic acid in saturated solution, tannin (a white insoluble precipitate), mercuric chloride (a white precipitate, soluble in an excess of water), infusion catechu, infusion cinchona-bark, infusion rose-leaves, infusion uva ursi, solution of extract cinchona-bark, tincture catechu, tincture cinchona, tincture hamamelis, tincture iodine (a precipitate soluble in water), tincture kino, tincture rhubarb. The following substances produce coloration when added to aqueous solutions of antipyrine: Hydrocyanic acid, dilute solution, yellow; nitric acid, dilute solution, weak yellow; ammonia-alum, dilute solution, dark yellow; amyl nitrite, acid solution, green; nitrous ether, alcoholic solution, green; copper sulphate, green; ferrous sulphate, yellow-brown; ferric sulphate, blood-red; ferric chloride, blood-red; syrup iodide iron, red-brown.

The Quinine Treatment of Pertussis.—Dr. Ungar advocates anew the employment of quinine in the treatment of whooping-cough. The author thinks that not enough attention has been given to the value of this alkaloid in the affection named, considering that it can considerably ameliorate the violence of the attacks, shorten the course of the disease, and prevent complications. The reason why some authors have not obtained satisfactory results with the remedy the author traces to the use of too large doses. As a rule he gave daily twice as many centigrammes as the child was years old, and as a rule did not exceed eighteen grains daily. Of course, an important factor in determining the dosage is the general physique and health of the patient. Dr. Ungar specially warns against a too rapid diminution or suspension of the use of quinine when the desired effect is produced, as in that case the patient may have a serious relapse. He regards it as a particular advantage of the quinine treatment that pulmonary complications were much less frequent. He never observed any unpleasant effects upon the digestive apparatus, or on the organs of hearing. Though in some cases a very rapid cure was produced, in others it required three or four days of the treatment before the attacks were found to diminish in intensity, and in about a fortnight the disease was practically cured.—*Deutsche Medicinische Wochenschrift.*

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MODIFICATION C B.

THOUGH tuberculin has proved so complete a failure therapeutically, it still excites legitimate scientific interest, and a paper by Dr. William Hunter (*The British Medical Journal*, July 25th), giving the result of a chemical as well as clinical study of this substance, deserves serious attention.

Dr. Hunter, as the result of chemical analyses, concludes that the chief substances in tuberculin are:

1. Albumoses; chiefly protoalbumose and deuteroalbumose, along with heteroalbumose, and occasionally a trace of dysalbumose.

2. Alkaloidal substances; two of which can be obtained in the form of the platinum compounds of their hydrochlorate salts.

3. Extractives; small in quantity, and of unrecognized nature.

4. Mucin.

5. Inorganic salts.

6. Glycerine and coloring matter.

So far as Dr. Hunter's observations go, the following substances are absent from tuberculin, namely, serum albumin, globulin, peptones.

The conclusions regarding these substances are summarized as follows:

1. Tuberculin owes its activity not to one principle, but to at least three, and probably more, different substances.

2. Its action in producing local inflammation, fever, and general constitutional disturbance is not a simple, but an extremely complex one.

3. Its active ingredients are of the nature of albumoses, alkaloidal substances, and extractives. The action of these is in certain instances antagonistic.

4. Its remedial and inflammatory actions are connected with the presence of certain of its albumoses, while its fever-producing properties are chiefly associated with substances of non-albuminous nature.

5. The albumoses are not lost by dialysis, the latter are. By the adoption of suitable methods it is thus possible to remove the substances which cause the fever, while retaining those which are beneficial in their action.

6. The fever produced by tuberculin is thus absolutely unessential to its remedial action.

7. The same holds true, I would fain believe, with regard to the inflammation produced by it. Inflammation is certainly not absolutely necessary for the manifestation of its remedial action. It is in some cases, however, beneficial, and helps, under certain circumstances, the action of the remedial substance.

8. The difference between the substance which causes the inflammation and the one which possesses the remedial properties, as regards their action, is not merely one of degree. The local reaction which occurs with small doses of the former is much greater than that producible by large doses of the latter.

9. Nevertheless, the remedial substance has as truly a local action as the one which tends to produce inflammation. This is evidenced in two ways—first, by distinct and obvious shrinking of the tuberculous tissues; and secondly, increased scaling, pointing to the existence of a certain amount of deep local congestion. In some cases this congestion becomes obvious by slight superficial reddening.

10. The power of favoring recurrence, which tuberculin possesses, is connected partly with the non-albuminous substances removable by dialysis, possibly also with a portion of the albumoses present.

11. Tne remedial substance resists the action of high temperatures. Its action is, however, lessened if exposed to a temperature above 70° C. in a dry condition. Its properties, moreover, can be altered in other ways, sometimes, for example, materially by dialysis. This change is not due to the passage of the substance through the membrane, but to changes occurring in it within the dialysator. Its sensitiveness in this respect I regard as one of its chief features, and causes its preparation to be attended with special difficulties.

12. Both it and the albumoses present probably belong to the class of proteins—albuminous substances derived from the plasma of the bacilli themselves, and not merely formed by the action of the bacilli on the surrounding tissues.

Dr. Hunter, in connection with Dr. Watson Cheyne, used for therapeutic experiment four modifications of tuberculin, called respectively modification A, C, C B, and B; or, tuberculinose A, C, C B, and B.

Modification A acts much like the original-package tuberculin.

Modification C contains the remedial agent, but also a fever-producing substance.

A and C are not recommended for use therefore.

Modification C B contains the remedial substance present in C, freed from the fever-producing and other bad properties of the latter. It fulfils the first condition in having a remedial action, the second in its action being, so far as yet observed, free from any ill effects, and its power of favoring recurrence of the disease is materially lessened, if not abolished.

Its remedial action is unattended with any local reaction other than a slight degree of reddening, and that not always. It is slower probably for this reason than that of B. This absence of inflammation gives it, however, great advantages if it be employed for internal tuberculosis.

Modification B contains the remedial properties of C B with the additional property of inducing local inflammation. Its action is free, so far as has yet been seen, from any ill effects.

Dr. Hunter's hopes seem mostly centred on "Modifi-

cation C B," and a further report of his studies upon its effects was to have been given at the meeting of the British Medical Association.

THE AMBULANCE SYSTEM OF NEW YORK.

THE Grand Jury has been investigating our city's ambulance system, and has produced a report upon this subject which is most creditable to the Jury, and one that should interest the medical profession. The facts regarding the work of the ambulances are carefully collected and presented in detail. The following table gives at a glance an idea of the enormous importance and activity of this form of medical service. It represents the work done in the year 1890.

Hospitals.	Total No. Calls.	Highest 1 day.	Lowest 1 day.
St. Vincent	1,930	23	2
Manhattan	567	6	0
Chambers Street	2,678	21	0
Presbyterian	1,202	12	1
New York	1,321	12	1
Roosevelt	1,513	11	0
Total	9,211		
Bellevue	4,246	26	3
Gouverneur	2,374	21	0
Harlem	1,225	10	0
Total	7,845		

The average daily number of ambulance calls is forty-six, and the total number for the year is about seventeen thousand.

The Grand Jury has very little but praise for the system as a whole, and its recommendations bear on minor points. It advises that the ambulances carry red and blue lights instead of white. It also urges the adoption of a comprehensive system of signal-boxes or stations scattered through the streets in large numbers, from any of which an ambulance could be summoned to the prompt relief of an emergent case.

The present methods, however, work fairly well in the vast majority of cases. It rarely requires more than eight or ten minutes, at the utmost, to send the ambulance call, and it is unreasonable to expect that a city should provide a signal on almost every block so as entirely to prevent delay.

The best line in which to work for improvement would undoubtedly be that by which the police could be put in quicker communication with the precinct station.

BRIGHT'S DISEASE AND THE PRESS.

PERHAPS nothing more extraordinary and painful, in connection with modern journalism, has happened than the recent attempt to fasten Bright's disease upon the eminent hypochondriacal invalid, Mr. Blaine.

An alleged urinary analysis was shown to a number of physicians in this city. We are informed that in most, if not all, cases it was not stated to what case the analysis referred. Various answers were reported to have been given: "If the analysis you show me is a true and reliable statement, the condition of this man must be very bad indeed," said Dr. McCracken, of Eighteenth Street. "The test that you have shown me," remarked Dr. Cumings, of Nineteenth Street, "suggests that Mr. Blaine is a very sick man." Dr. Hanlon, of Twentieth Street, shook his head and said "it was a bad case." "It indicates a very serious condition of things," said Dr. Asche, of Thirtieth Street. Dr. Rounds, of Thirty-sixth Street, said: "An advanced and serious stage of Bright's disease. It is a shame the analysis should have been published." "Chronic Bright's disease in an advanced stage," said Dr. Biggs, of Twenty-fifth Street. "There is no question of what the fate of the patient will be." "It seems like an impossibility that a man could be in the state indicated and live," remarked Dr. Valentine Mott, of Madison Avenue. "If the analysis be true, and why doubt it?" remarked Dr. Emerson, of Thirtieth Street, "Mr. Blaine naturally cannot be long for this earth." And so on.

As a matter of fact, we are informed on good authority that Mr. Blaine has not got albuminuria or Bright's disease.

WIRING OF THE VERTEBRÆ AS A MEANS OF IMMOBILIZATION IN POTT'S DISEASE.

DR. B. E. HADRA, of Galveston, Tex., has reported in the *Times and Register* for May 23, 1891, a case of fracture of the vertebra, treated by wiring the spinous processes together, and he suggests this procedure as a means of immobilization for the treatment of tubercular spondylitis. The procedure is as follows: A long skin incision, the centre of which should be over the seat of fracture, is made; next the muscles on either side of the spinous processes are lifted up and drawn aside with blunt instruments, but not more than to allow one to feel the contours of the bones. Then a stout curved needle, armed with wire, is carried through the interspace between the spinous process of a vertebra, and that of the next upper one, as deep as possible; brought out, entered again into the next inferior interspace; brought out on the other side; entered there again into the next lower interspace; carried around the spinous process of the vertebra, and again carried through the middle interspace, meeting the wire where it entered, and well twisted together to a knot. In short, a figure-of-eight loop is carried around the spinous processes which may be repeated as often as seems advisable. In the lumbar portion of the spine simple loops will suffice, as the processes are almost horizontal. Then the wound is closed, with or without drainage. All this can be done in a few minutes. The operation is nearly bloodless, involves no great laceration of tissues, and can be made thoroughly aseptic. The wires are well secured in their position by the ligaments, which remain undisturbed.

The reasoning which would lead to the employment of this procedure in spondylitis is perfectly logical. The disease is almost invariably located in the vertebral bodies, and usually on or near their anterior surfaces, the processes, laminæ, arches, and articular facets are invariably healthy; nearly all mechanical means employed to immobilize the spine aim, by indirect leverage, to transfer the superimposed weight from the vertebral bodies to the articular facets, where experience has shown that it is well borne. In Dr. Hadra's procedure the weight is transferred to the same articular facets, but the leverage

is direct, and the immobilization ought, therefore, to be the more perfect.

Immobilization is the aim and end of all mechanical treatment of Pott's disease, yet all corsets and jackets seek to immobilize by grasping the whole trunk, containing vital organs which cannot for a moment be put at rest, and all skeleton braces act by grasping the pelvis below and the arms above, exerting leverage over the kyphos, with nothing to prevent forward bending and consequent motion above and below this fulcrum. When these mechanical difficulties are borne in mind, it will readily be seen how seductive, on theoretical grounds, is the proposition for directly fastening together the spinous processes. Practically, however, it is doubtful if one would submit himself or his child to the small risks of this operation, when a reasonably good result can be anticipated from treatment by non-operative, mechanical means.

THE CAUSE AND CURE OF BALDNESS.

BALDNESS, like obesity, is one of those minor evils which could probably be much more thoroughly kept under control, if people would take more pains and begin earlier with their treatment.

Dr. M. Joseph Tyson, who writes upon idiopathic and premature baldness in *The Lancet*, makes some observations which quite corroborate this view. Thus he sums up the causes of baldness as insufficient exposure of the hair to the sun and air, close, ill-ventilated hats, excessive mental work and worry, the influence of heredity, venereal and alcoholic excesses, constant washing, and the neglect of using some oil or pomade. These causes vary in importance in different cases.

It can be seen that his remedy is not a single or simple one.

Children, he says, should as much as possible do without caps, and hats when worn should be of the lightest description. During the hot season, a stouter hat is necessary for the prevention of sunstroke. A head covering should never be worn indoors, in trains, or in closed carriages. The kind of material employed is of importance. In summer and still weather straw appears to be the best, on account of its lightness and permeability. In winter, hats made of light felt, well ventilated and unlined, are to be recommended. The ordinary tall hat, and the thick, heavy, unventilated top hat, cannot be too strongly condemned. Of course, nothing special can be said regarding hereditary or nervous influences. In concluding, however, he mentions a few minor points of treatment which should not be forgotten. Too constant washing of the hair is unnecessary, as well as harmful. Once a week is quite often enough for cleanliness, as well as for maintaining the strength of the hair. The same remark applies to constant brushing, for continual brushing, especially with hard brushes, should be avoided. There is a common notion that greasing the hair is vulgar; so many persons fall into the other extreme, and never apply any pomade at all. After the hair has been washed it is certainly beneficial to apply some form of simple grease or oil. When the head-hair is becoming rapidly thinned, some stimulating material, such as ammonia and cantharides, added to the oil, will increase its good effects.

Dr. Tyson does not take into account one possibly important factor in causing baldness, viz., that of contagion. It has been held on good authority that many cases of baldness are parasitic, and due to micro organisms gathered from unclean brushes and combs.

News of the Week.

The Lannelongue Treatment for Tuberculosis. — In a recent issue we gave a general account of Lannelongue chloride of zinc method of treating tuberculosis. A correspondent of *The Lancet* gives the details of the technique. The strength of the solution is generally, he says, about 1 to 10, of which two or three drops may be injected into each determined point. This operation may be repeated several times, either through the same puncture, or through several different punctures, until from eight to twenty drops are deposited, according to the case. In the cases of articular tuberculosis it is expressly advised that the injections be kept completely clear of the cavity of the joint; but they may be practised in the regions from which the synovial membranes draw their blood-supply—that is to say, over the bone at the level of the cul-de-sac. Any fungosities found among the large ligaments of the joint may be included in the injections, but care must be taken that these latter be not made beneath the skin only. Solutions of 1 in 10 will be found the best for articular fungosities, but the author has used a solution of 1 in 40 only for his pulmonary cases, and 1 in 20 for testicular cases. He finds it best to inject but small quantities, such as two drops, at a time, multiplying the points of contact. The injections, it must be allowed, sometimes cause considerable pain, which may even endure for a very appreciable length of time. After the injection has been made, the first change noticeable is swelling of the diseased and neighboring parts. Little or no œdema of the cutaneous tissues follows, unless the injection be made into the subcutaneous cellular structures, an accident which should be avoided. Sometimes an erythematous blush may be observed, which, however, quickly subsides. At the end of a day or two the next apparent change sets in. It consists in the appearance, or rather undue prominence, of the cutaneous venous system, indicating the obstruction to the deeper circulation which follows the destruction of the vessels of the altered tissues. There is rarely or never any effusion into the joints as a result of the injections, provided of course that these cavities be carefully avoided. Palpation will detect a modification in the involved tissues the day following the injections. The irritation thus set up is at first quite localized, but soon propagates to remoter areas, indicating, in the opinion of the author, that there is not merely a diffusion of liquid, but an actual transportation of the irritated or inflammatory process along the vascular channels. The fungous growths become more consistent, and within the lapse of four days nodules quite hard and almost cartilaginous appear over the seat of each injection. The general health of the patients treated is little or not at all affected by the injections, the temperature rarely passing 39° C. (102.1° F.) The weight of the patients is not modified while under treatment, but a distinct gain is noticeable as soon as the treatment is terminated. As to complications attending

the method, they may be said to hardly exist. Sometimes a subcutaneous or intermuscular effusion of blood takes place, owing doubtless to minute vascular ruptures resulting from the intense congestion and friability of the smaller vessels. These vary from the size of a pea to that of a large nut, and may be mistaken for small abscesses. They are, however, of no great moment, and usually disappear under the influence of continued pressure. In over two thousand injections made by the author there was not one case of abscess, antiseptic precautions being, of course, strictly observed in all cases. With a 1 in 10 solution a scar may follow, especially if the injection be made under the skin only; but with weaker solutions, or where the injection is carried sufficiently deep, no such complication results. When they do follow they are rarely larger than a ten-cent piece, and involve the skin only at the seat of injection. In the case of suppurating but unopened joint cases, M. Lannelongue first aspirates the cavity and then washes it well out with sterilized water, after which he injects the solution into the periphery in several points. Sometimes the cavity refills with pus, and the abscess may open; at other times the reproduced effusion may not be purulent. In cases of tubercular bone disease with a sequestrum, a sclerosis is set up in the tissues surrounding the sequestrum, but a complete disintegration of the caseous products follows. An inflammatory action would appear to be excited in the tissue surrounding the sequestrum, which is characterized by a phlegmonous process ending in an abscess. Operative procedures are not, therefore, suppressed or superseded; on the contrary, once the sclerotic change is completed the bony parts are in the best condition for such measures, to which recourse may then be had without fear of lighting up further infection in healthy parts beyond.

A Slight Reaction in Favor of Tuberculin is reported to have set in at Berlin. Professor Ehrlich, who is to read a paper on the subject before the Congress of Hygiene, in London, next week, believes in the efficacy of the lymph. He says that he had tubercle bacilli in his sputum, but that they entirely disappeared after a few very mild inoculations.

An Army Medical Board will be in session in New York City, during October, 1891, for the examination of candidates for appointment in the Medical Corps of the United States Army, to fill existing vacancies. Persons desiring to present themselves for examination by the Board will make application to the Secretary of War, before September 15, 1891, for the necessary invitation, stating the date and place of birth, the place and State of permanent residence, the fact of American citizenship, the name of the medical college from whence they were graduated, and a record of service in hospital, if any, from the authorities thereof. The application should be accompanied by certificates, based on personal knowledge, from at least two physicians of repute, as to professional standing, character, and moral habits. The candidate must be between twenty-one and twenty-eight years of age, and a graduate from a Regular Medical College, as evidence of which, his diploma must be submitted to the Board. Further information regarding the examinations may be obtained by addressing the Surgeon-General U. S. Army, Washington, D. C.

American Laryngological Association.—The following papers will be read at the thirteenth annual congress of the American Laryngological Association, to be held in the city of Washington, D. C., September 22, 1891: "A Case of Thyrotomy in a Child Eighteen Months Old," by Dr. Clinton Wagner, of New York; "Some of the Uses of Pyoktanin in Diseases of the Upper Air-passages," by Dr. R. P. Lincoln, of New York; "The Troublesome Symptoms Caused by Enlargement of the Epiglottis, and the Advisability of Reducing the Size of this Cartilage by Operative Measures," by Dr. Clarence C. Rice, of New York; "The Surgical Treatment of Tubercular Laryngitis," by Dr. D. Bryson Delavan, of New York; "Various Forms of Disease of the Ethmoid Cells," by Dr. F. H. Bosworth, of New York; "A Case of Epithelioma of the Larynx," by Dr. Morris J. Asch, of New York; "Useful Deductions Derived from the Study of a Case of Cicatricial Contraction of the Larynx, possessing Unusual Clinical Features, with Exhibition of Specimen," by Dr. W. C. Jarvis, of New York; "Three Obscure Cases of Syphilis of the Nose," by Dr. Charles H. Knight, of New York; "Nasal Papillomata," by Dr. Jonathan Wright, of Brooklyn; "A Case of Foreign Body in the Trachea," by Dr. W. C. Glasgow, of St. Louis, Mo.; "The Tonsil in Health and Disease," by Dr. Harrison Allen, of Philadelphia, Pa.; "Observations on Paralysis of the External Tensors of the Vocal Cords," by Dr. George W. Major, of Montreal; "The Laryngo-Tracheal Neoplasms of Tuberculosis," by Dr. John N. Mackenzie, of Baltimore. Charles H. Knight, *Secretary.*

Professor Rubner, from Marburg, has been appointed Koch's successor as director of the Hygienic Institute in Berlin, and will enter upon his new duties on October 1st.

Association of American Physicians.—The following papers will be read before this Association at its meeting in Washington in September: "President's Address," by Dr. William Pepper, of Philadelphia; "Discussion on the Treatment of Visceral Tuberculosis by Koch's Method,' Reports by Drs. F. P. Kinnicutt, of New York; Harold C. Ernst, of Boston; William Osler, of Baltimore; Musser and Griffith, of Philadelphia; "The Climate of Southern California for Respiratory Diseases," by Dr. Norman Bridge, of Los Angeles; "Experimental Studies on the Causes of the Localization of Pulmonary Phthisis and certain other Infectious Diseases in the Lungs," by Dr. J. W. Roosevelt, of New York; "Discussion on the Remote Results of the Removal of the Ovaries and Tubes," *Referee*, Dr. William T. Lusk, of New York; *Co-Referee*, Dr. Wharton Sinkler, of Philadelphia; "Nerve Stretching in Inveterate Cases of Trigeminal Neuralgia," by Dr. James Stewart, of Montreal; "On the Diseases of the Kidney, popularly called 'Bright's Disease,'" by Dr. Francis Delafield, of New York; "Note on the Recognition of Certain Cases of Epilepsy, accompanied by Albuminuria, which might be mistaken for Cases of Uræmic Convulsions," by Dr. James Tyson, of Philadelphia; "Bradycardia in Acute Articular Rheumatism," by Dr. I. E. Atkinson, of Baltimore; "Discussion on the Relations Between Arterial Disease and Visceral Changes," *Referee*, Dr. George L. Peabody, of New York; *Co-Referee*, Dr. W. T. Councilman, of Baltimore; "Intes-

tinal Perforation in Typhoid Fever," by Dr. R. H. Fitz, of Boston; "The Relation of Drinking-water to Disease," by Dr. Henry P. Walcott, of Cambridge; "A Contribution to the Pathology of Pernicious Anæmia," by Drs. J. P. Crozer Griffith and Charles W. Burr, of Philadelphia; "On Changes in the Red Blood-corpuscles in the Pernicious Anæmia of Texas Cattle Fever," by Dr. Theobald Smith, of Washington; "The Condition and Prospects of the Library of the Surgeon-General's Office, and its Index Catalogue," by Dr. John S. Billings, of Washington; "Sequel to a Case of Slow Pulse (Purdy)," by Dr. D. W. Prentiss, of Washington; "Report of Autopsy," by Dr. Robert T. Edes, of Washington; "Grave Forms of Purpura Hæmorrhagica," by Dr. J. H. Musser, of Philadelphia; "Pathological Histology of Acute and Chronic Appendicitis," by Dr. William F. Whitney, of Boston; "The Treatment of Typhoid Fever by Systematic Cold Bathing," by Dr. James C. Wilson, of Philadelphia. The Association will hold its meeting in Hall No. 1 of the Grand Army Building, 1412 and 1414, Pennsylvania Avenue; and in the Main Hall of the same building the meetings of the Congress will be held.

Congress of American Physicians and Surgeons.—The following are the subjects announced for discussion at the sessions of the Congress of American Physicians and Surgeons, to be held in Washington on September 22d, 23d, 24th and 25th. The sessions will be held at 3 P.M., each day: "Conditions Underlying the Infection of Wounds, including a Discussion of Disinfection with Reference to the Treatment of Wounds, of the Relation of Bacteria to Suppuration, of the Resistance of Tissues to the Multiplication of Bacteria, and of the Effects of Antiseptic Agents on Wounds," *Referee*, Dr. William H. Welch, of Baltimore; *Co Referee*, Dr. Roswell Park, of Buffalo. 2. "The Late Manifestations of Syphilis," *Referee*, Dr. Phineas S. Conner, of Cincinnati; *Co Referee*, Dr. Abner Post, of Boston. 3. "Fibroid Processes (Chronic Interstitial Inflammation Scleroses): Their Pathology and Etiology, with Special Reference to the Influence of Diathesis and Heredity," *Referee*, Dr. A. L. Loomis, of New York City; *Co-Referee*, Dr. William Osler, of Baltimore.

The "Fatal Patient."—We have received several letters regarding the story of the fatal patient published in the MEDICAL RECORD of July 25th. We have not space to publish all, nor is it necessary. The essential facts communicated are that while Dr. Wendell Phillips is alive, Dr. David Phillips, who treated the patient, was found dead in his bed the next morning. When the patient was turned over to him, Dr. Phillips remarked that he supposed he would be the next victim; and so he was. The coincidence was remarkable. We are indebted to one correspondent for some notes regarding the late Dr. Phillips. He graduated from the College of Physicians and Surgeons of New York in 1873, was Assistant Surgeon to the Manhattan Eye and Ear Hospital, and also Nose and Throat Surgeon to the Yorkville Dispensary, at the time of his death. He served six years on the staff of the Northwestern Dispensary. He was a member of the New York County Medical Association and the Metropolitan Medical Society. About three months ago he wrote an article on "Ichthyol in the Treatment of Atrophic Rhinitis," which he read before the Laryngological Section of the Academy, although not a member. This article was published in the *New York Medical Journal*. He was about thirty-eight years of age.

Honors.—Dr. W. W. Keen, of Jefferson Medical College, has received the honorary degree of LL.D. from Brown University.

Dr. D. G. Brinton, formerly of the *Philadelphia Medical and Surgical Reporter*, has received the degree of LL.D. from the Jefferson Medical College, in recognition of his researches in anthropology and ethnology.

Appointments.—Dr. Victor C. Vaughan is made Dean of the Faculty of Medicine in the University of Michigan, in succession to Dr. Ford, who has resigned.

The Board of Trustees of the Philadelphia Polyclinic and College for Graduates in Medicine have created a third Chair of Diseases of the Eye, and, upon the unanimous nomination of the Faculty, have elected Professor George de Schweinitz, M.D., to fill the position.

Dr. J. P. Crozer Griffith has been elected Clinical Professor of the Diseases of Children in the University of Pennsylvania.

Dr. Condict W. Cutler, of New York, has been appointed Professor of Skin and Venereal Diseases in the University of Vermont, to succeed Dr. R. W. Taylor, who has resigned.

A Cure for Viper Bites.—The Academy of Medicine of Paris has awarded the Orfila prize to Professor Kaufman, of the Veterinary College, at Alfort, for a lotion for the cure of viper bites, consisting of one part of chromic acid dissolved in one hundred parts of water.

The Use of Vaginal Injections.—Dr. Doderlein, of Leipsic, states that he has examined the secretions of a large number of healthy women, and although germs were found, they were never pathogenic. He never found the staphylococcus. From his observations he draws the practical conclusion that disinfection of the healthy vagina is not necessary, whether internal examinations have been made during labor or not. There are, however, persons who syringe as a routine practice, and will probably continue to do so in spite of the plainest proof that it is unsound midwifery. In the pathological secretions of one hundred and fifty-six cases he found the streptococcus pyogenes six times. In such cases it is of great importance to bring about an acid reaction in the vagina, and the chief danger to the patient is in making internal examinations.

Bequests to Medical Charities.—By the will of Hector C. Havemeyer, several of our local medical charities will be benefited as follows: Post-Graduate Medical School and Hospital, $5,000; the Manhattan Dispensary and Hospital, $5,000; Presbyterian Hospital, $5,000.

The Medical Society of Virginia meets at Lynchburg in October.

The Mississippi Valley Medical Association will hold its seventeenth annual session at St. Louis, Wednesday, Thursday, and Friday, October 14, 15, and 16, 1891.

Koch's Lymph in Colorado.—Several Koch hospitals have been established in the United States, but with varying success, except that in Denver, which, according to the *Denver News*, seems to have been an unqualified success.

Gout and Fruit-eating.—In the last number of his *Archives of Surgery*, Mr. Jonathan Hutchinson says that he has for many years been in the habit of forbidding fruit to all patients who suffer from tendency to gout. In every instance in which a total abstainer of long standing has come under his observation for any affection related to gout, he has found on inquiry that the sufferer was a liberal fruit eater. Fruits are, of course, by no means all equally deleterious; cooked fruits, especially if eaten hot with added sugar, are the most injurious, the addition of cane- to grape-sugar adds much to the risk of disagreement. Fruit eaten raw and without the addition of sugar would appear to be comparatively safe. Natural instinct and dietetic tastes have already led the way in this direction, few wine-drinkers take fruit or sweets to any extent, and Mr. Hutchinson suggests as a dietetic law that alcohol and fruit-sugar ought never to be taken together; and he believes that the children of those who in former generations have established a gouty constitution may, though themselves water-drinkers, excite gout by the use of fruit and sugar.

Russian Female Physicians have apparently been restored to the good graces of the Czar. A recent ukase permits female physicians to practise everywhere within the Russian empire, provided they wear a badge supplied by the crown, indicative of their calling. Moreover, women are to enjoy special privileges of practising in female hospitals, as well as charitable institutions, gymnasia, and schools for young women. The ukase lays down special regulations for the appearance and testimony in court of female physicians, so that womanly modesty shall not be outraged by impertinent cross-examination.—*Medical Standard.*

Seymour, Ind., has a boy who has just awaked from a continuous sleep of one hundred and nine hours. That youth's talent is wasted in the wild and woolly West. He should come to Philadelphia.—*Times and Register.*

The Fiske Prize.—The Trustees of the Fiske Fund have awarded a prize of $300 to Dr. Robert W. Lovett, of Boston, for an essay on "The Etiology, Pathology, and Treatment of the Diseases of the Hip-joint."

Grafting Cancer—A Medical Scandal.—The *British Medical Journal* says: "When we read in the *Echo de Paris*, of June 26th, a paragraph headed, 'Le Scandale de l'Académie de Médecine,' we hoped that the story which it told was either wholly untrue, or, at the worst, grossly exaggerated. The *Bulletin* of the Académie de Médecine, however, published on June 29th, contains the official report of a paper read by no less a person than M. V. Cornil, at the meeting on June 23d. This paper reports proceedings which we can only characterize as an outrage, not only upon the unhappy persons therein referred to, but also upon the whole medical profession. It is a paper to which, if proper supervision had been exercised by the officials, the fictitious importance conferred on it by being read at the Académie would never have been given. The facts of the case are, briefly, that 'un chirurgien étranger,' who conceals his identity, took advantage of the insensibility of two patients, from each of whom he was removing a tumor of the breast, to graft a portion of each tumor into other, and apparently unaffected, parts of their bodies. He states that each of these grafts took effect; in one case the patient died, but not of the grafting; in the other case the patient was still living, at the time of the report four years ago, but she refused to undergo any further operation. We cannot reprehend too strongly such an abominable action as has been perpetrated in these cases; the immorality is obvious, and the scientific result quite valueless."

The Danger of Being too Clean.—Dr. M. Ricketts has discovered a skin affection almost peculiar to women who wash and powder too frequently (*British Medical Journal*). There is redness, with scaliness and considerable burning. Exposure to draughts increases the symptoms. At times there is pain, causing loss of sleep. The zeal of some American ladies in the practice of the virtue which is next to godliness is marvellous. One is said to have confessed to having applied a well-known cosmetic powder thirteen times in twelve hours, each time after the face had been thoroughly washed with a yet more famous soap. Dr. Ricketts prefers good, pure olive oil from the south of France, applied two or three times a day with some soft silk or linen fabric, to the blandest soap.

Fiat Cauda Galli.—A clever convalescent in the University Hospital borrowed a United States dispensatory, and wrote a regular prescription for a matutinal cocktail, with the appropriate Latin formula for the ingredients. His ingenuity was rewarded, the prescription was put up and delivered, and the order, with its "fiat cauda galli," now hangs on the druggist's hook.—*Times and Register.*

The Regents of the State University and the Board of Medical Examiners.—Says *The Post-Graduate*: "The MEDICAL RECORD seems to think that the law [creating a State Board of Medical Examiners] was amended because of the 'stupidity and weakness' of the Board of Regents in not appointing any examiners from New York City. That this was an absurd and unexpected action of the Regents is certainly true. We now know why Governor Hill once wished to abolish them, perhaps; but we fancy that the mine of the Long Island College Hospital was well laid long before the Regents appointed the examiners, although its explosion occurred just afterward. As to who handled the Board of Regents, as the RECORD felicitously puts it, we think that the distinguished homœopath from Utica, who is a member of the Board, can tell as much about it as any one. Next year we hope the Regents will condescend to appoint at least one New Yorker, or the State Society, in strict compliance with law, may conclude to send in only the names of New York practitioners from which the Regents must choose. We can look out for sharp practice, if we must. The members of the profession outside of New York City, with possibly the exception of those in one important town not a thousand miles from the capital, have no desire to see New York City, through whose efforts a State Examining Law was finally passed, humiliated by their contemptuous exclusion from the board which they solidly voted for."

Not so Slow after all.—A remarkable case of early precocity has been made public in Philadelphia, where a girl of sixteen gave birth to a child whose father, at the time of conception, was only thirteen years old.

Society Reports.

INDIANA STATE MEDICAL SOCIETY.

Forty-second Annual Session, held at Indianapolis, June 10 and 11, 1891.

THE meeting was largely attended, two hundred and fifty physicians being present. The reports of the Secretary, Dr. E. S. Elder, Treasurer, Dr. Frank C. Ferguson, and the Committee on Necrology, Dr. J. F. Hibberd, of Richmond, occupied a large part of the morning session the first day.

The Alumni of the Medical College of Indiana celebrated the twenty-first year of its existence by a banquet at the Dennison House, Tuesday evening. More than two hundred of the members were present, and the occasion was highly enjoyable, with both the rich viands and the feast of reason and flow of wit which enlivened the wee small hours.

The officers for the coming year are: *President*, Dr. Edwin Walker, of Evansville; *Vice-President*, Dr. Erwin Wright, of Huntington; *Secretary*, Dr. E. S. Elder, of Indianapolis; *Assistant Secretary*, Dr. T. A. Kennedy, of Shelbyville; *Treasurer*, Dr. J. O. Stiltsee, of Indianapolis. Dr. Edwin Walker, the President, is the youngest man elected to that position for many years.

Bacteriological Investigations.—DR. THEODORE POTTER made an interesting report on this subject. in the course of which he said that there is a growing belief that the older ideas of heredity are exaggerated; that disease is to be looked upon as an infection rather than an inheritance; that it is comparatively rarely transmitted from parent to child in course of nature. Yet he added the doctrine of heredity is by no means overthrown, and we must still wait for the whole truth.

Antiseptic Methods Applied to Obstetrics.—DR. J. W. MILLIGAN, of Indianapolis, read a paper with this title. This was thoroughly discussed, and soap and water received most commendations as the most efficient disinfectant. Puerperal fever had existed for two hundred years, and it is time it is disappearing.

The Salicylic Treatment of Typhoid Fever.—DR. C. C. MORRIS, of Rockville, read the paper. He said that salicylate of soda is an acknowledged germicide, and there is every reason for its use in typhoid and kindred diseases.

Dr. J. A. Sutcliffe, of Indianapolis, had an interesting paper on "Perineal Section," with a number of descriptive cases. Following this Dr. C. H. Smith, of Lebanon, treated of "Abortion." He spoke of those cases occasioned by accident or disease, and laid great stress on the patient having absolute physical and mental rest, and then relief from pain.

Dr. Owen read a paper entitled "What should be the Relation of Contract Corporation Surgeons to the Medical Profession?" The subject was referred to a committee consisting of Drs. Owen, Hibberd, and Sutcliffe, with instructions to report before the close of the meeting.

Dr. M. F. Porter, of Fort Wayne, read a "Report of a Case of Sarcoma of the Ovary, Operation and Recovery." After this came a paper by Dr. F. C. Ferguson, of Indianapolis, on "Some Fallacies in Gynecology." The topic "Diphtheria" was handled by Dr. W. A. McCoy, of Madison, and the venerable Dr. Lomax said he had come across the term diphtherite in the beginning of his practice, fifty-four years ago, and the disease soon after, hence it was not a product of modern civilization, as is sometimes supposed.

The Influence of Heredity in Producing Disease and Degeneracy and Its Remedies.—The address of the President, DR. GONZALVA C. SMYTHE, of Greencastle, was a very able one. He showed what might be determined from the stand-point of the biologist, and spoke of inebriety as a physical disease which may be inherited, the children of inebriates becoming perhaps epileptic, insane, or criminals. In a large proportion of cases the third and fourth generations from drunkards are criminals or paupers. He said the profession was face to face with one of the greatest problems in sociology which confronts the present day. It is its duty to open up the way so the religious and civil authorities can follow. He proposed for the Government to take the matter in hand and only admit those immigrants who can furnish a consular certificate that neither tuberculosis, scrofula, cancer, insanity, inebriety, crime, or pauperism is hereditary in the families from which they sprung. It is a comparatively easy matter for the Government to exclude from admission any more of these people thus diseased, but how to dispose of the stock now on hand will tax the best minds of the country. The State interposes no objection to the marriage and multiplication of these people. She licenses and legalizes a traffic which largely contributes to their propagation and the influence of which will be handed down to posterity. It is the duty of the Government, as a sanitary measure, to assume entire control of the manufacture and sale of alcohol. Every attribute of the human family might be improved and new ones be possibly developed were science brought to the aid of sentiment in mating the sexes.

Hysteria.—This was the first paper of the second day's session, by DR. A. B. RICHARDSON, of Cincinnati. The manifestations of the disease he called "fugacious," and compared it to the cuckoo building no nest of its own but steals into those prepared by other physiological processes.

DR. J. R. WEIST, of Richmond, reported the lamentable failure of the two bills before the last Congress in which this society had special interest. One of these was to protect physicians, editors, and others against speculative lawsuits, the other for the regulation of expert medical testimony in court.

DR. A. W. BRAYTON, of Indianapolis, presented a girl, fourteen years of age, afflicted with the extremely rare disease of the skin known as xeroderma pigmentosum, Kaposi's disease. This is the only case ever known in the Mississippi Valley and the eleventh known in the United States.

One Phase of Puerperal Sepsis.—DR. EDWIN WALKER, of Evansville, Ind., read a paper upon a special form of chronic puerperal septic infection. The following is a short abstract: Midwives furnish most of the cases of puerperal fever. The intelligent physician who applies modern principles rarely has one. Puerperal sepsis is the result of the introduction into the genitals of a specific poison. This may enter the circulation by lacerations or extend to uterus, tubes, or peritoneum. The first thing is to determine the location of the poison and to remove when possible. The special class of cases referred to in this paper is that in which the morbid material forms a focus of inflammation involving the tubes and peritoneum.

In patients suffering from this condition the tumor felt in the pelvic region has been shown to be formed of an enlarged and inflamed tube (or sometimes both tubes are found to be in the same condition), and of adherent coils of intestine whose peritoneal investment is in an inflammatory state. It not infrequently happens that the process has gone on to suppuration, in which case pus is present and contributes to the formation of the tumor.

The speaker reported three cases of this nature in which resort was had to abdominal section. The adherent intestines were carefully separated from the diseased tubes and the later were then removed. All of the patients recovered.

Cases of this nature were formerly erroneously regarded as instances of cellulitis and although they usually recovered it was only after a long and tedious illness lasting many months, with intervals of improvement followed by discouraging periods of recrudescence of the inflammatory symptoms. Sometimes, however, and this not infrequently, such patients never wholly recovered, but went to increase the number of chronic invalids.

A case was cited which lay for twelve weeks with fever; a tumor was present. This was five years ago and an operation was not done. Recovery was tedious. An early operation would have saved much suffering and the patient would be in better health now. The rule in all cases of puerperal sepsis where fever continues and tumor is found, is to remove it by laparotomy. With proper precautions the mortality would be less than by the expectant plan and the recovery more rapid and complete.

Some Fallacies in Gynecology was the subject of an able paper read by DR. FRANK C. FERGUSON. He said that twenty-five years ago gynecology was in a crude and chaotic state; there were a hundred fallacies to one well-authenticated fact. Sims, in our country; Baker Brown, in England, and Simon, of Germany, laid the foundation upon which has been built the rational and scientific treatment of diseases peculiar to women, but the fallacies which were once taught as facts have taken such deep root in both the professional and non-professional mind that many physicians have failed to appreciate or adopt the modern advances in gynecology which have exploded much of the pathology of the writers of former years. The pessary fallacy is a more pernicious one. An era of pessary invention was ushered in by Professor Hodge, who adopted the theory that displacements of the uterus were the cause of almost all uterine ailments and who introduced the treatment by mechanical appliances. The pessary craze still has a firm hold, not only upon women, but clings tenaciously to the majority of the profession. There are some cases where a well-adjusted pessary serves a good purpose as an adjunct to the cure or promoter of the comfort of the patient, but the indiscriminate, unscientific, and perhaps criminal use of pessaries by amateur gynecologists, and physicians experienced in general practice but unskilled in gynecology, is only mentioned to be condemned in the strongest terms.

Another fallacy is, "the ulceration of the os" fallacy. However much our predecessors may have been justified in calling "ulceration" that characteristic affection of the uterus now known as "laceration," there can be no excuse to-day for the perpetuation of this erroneous idea.

Another fallacy is, that laceration of the cervix neces sarily requires an operation for its cure. While I believe that Lawson Tait has gone too far in denouncing Em met's operation as one of the most useless ever invented, my own experience has taught me that the great majority of cases of laceration of the cervix can be cured without subjecting the victims to a dangerous operation and inconvenience of enforced confinement in bed for weeks. What is there in the anatomical structure of the cervix that can prevent nature from promptly healing it, provided there be not an acrid discharge pouring over the torn surface. During the past year I have operated upon but one case of laceration of the cervix and have cured a dozen cases without operation.

A wide-spread fallacy among physicians, and entertained almost universally among women, is that the "change of life" is necessarily a period of peculiar peril and intense suffering. Nothing could be farther from the truth and more harmful in its results. If a woman have good health and no organic disease of the reproductive organs, she will suffer nothing more at this period than slight nervous symptoms, such as flushes, slight headaches, etc., the result of vaso-motor disturbances. If she have pain or hemorrhage, or profuse leucorrhœa, singly or combined, it is almost certain she is afflicted with organic disease, as cancer, fibroid tumor, endometritis, salpingitis, or ovaritis. During the past year four women who had been under the care of excellent general practitioners for "change of life" have consulted me, and each one was found to have cancer of the cervix uteri in an advanced stage. Three of these are now in their graves. It is a fearful thing for a physician to assume to know what he does not, and through the egotism of ignorance become responsible for the death of a confiding and trusting woman.

A fallacy of firm hold in the minds of many is, that pruritis vulvæ is frequently a neurosis, that is to say, that it is of centric origin without any lesions of structure or accompanying affections to account for it. Where uncleanly habits of the patient are not the cause the trouble can be traced to some disease existing in the vagina, the uterus, or the bladder. There are many other fallacies which time forbids to mention.

Dr. G. W. McCaskey read a paper on "Some Needed Medical Legislation." Following this came a paper by Dr. S. M. Voris, of Columbus, on "Lacerations of the Perineum," and one by Dr. G. W. Vernon, of Indianapolis, on "Vulvo-vaginitis in Children."

At the afternoon session papers were read by Dr. F. C. Woodburn, of Indianapolis, on "Valvular Heart Diseases;" S. C. Evans, of Union City, "Nasal and Naso-Pharyngeal Reflexes;" H. McCullough, of Fort Wayne, "Functional Aphonia;" C. L. Thomas, of Logansport, "Cataract, with or without Iridectomy;" Norman Teal, of Kendallville, "Health and Vital Statistics;" S. W. Gould, of Argos, "Opium and its Preparations;" M. F. Johnston, of Richmond, "Angina Pectoris."

When the last paper was read, President Smythe came forward and presented the newly elected president, Dr. Edwin Walker, to the Convention. When the applause which greeted the presentation had subsided Dr. Walker made a short address and the Society adjourned to meet on the second Thursday in May, 1892.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Called Meeting, April 27, 1891.

WILLIAM T. BULL, M.D., CHAIRMAN.

Exostosis of Frontal and Parietal Bones.—DR. W. R. TOWNSEND presented a man, then fifty-two years of age, who, about seventeen years ago, had fallen downstairs a distance of ten or twelve feet, striking his head on a wooden floor. From that time he had noticed a slow but steady increase of bone growth over the parietal and frontal bones on the left side, the tumor having now attained the size of half an orange or more. It had caused no symptoms. The interest in the case was the slow but steady growth of the bone for so long a time after the injury.

Sarcoma of the Metacarpus with Rapid Generalization.—DR. W. B. COLEY read the history of the case, presented the amputated hand, and gave statistics, with remarks. The patient, a lady, had sustained a blow on the back of the hand, the swelling did not subside, pain became more severe, and she sought the advice of a physician, who treated it as a simple bruise. In the fall of the same year she came to New York, where Dr. Coley saw her, found a fusiform swelling the size of half a dollar over the metacarpal bone of the ring finger, the swelling gradually shading off. Further examination in October led him to think there was subacute periostitis, and an incision was made, but only little, if any, pus escaped, with some blood. The wound was dressed aseptically, but the swelling increased, and Dr. Bull was called in, who thought there was periostitis, probably of tubercular origin. An operation was postponed, but the swelling increased, sensation and motion were lost or impaired, and there being absence of inflammatory swelling, he concluded the case was one of sarcoma. Before microscopic examination of tissue had been completed, the character of the tumor changed, showing that it was undoubtedly sarcoma. The microscopic examination, when completed, revealed round-celled sarcoma. November 8th amputation was performed at the middle of the forearm. While the wound healed readily, yet the general health remained poor, the pulse continued high, 100 to 120. Three weeks after the amputation the patient complained much of epigastric pain, there was a small area of resistance, which became more marked later, pointing to recur-

rence. Four weeks and a half after the operation a small nodule appeared in the right breast. Before death, which took place about six weeks after the amputation, there had been jaundice, vomiting of blood, involvement of the axillary glands, the tumor of the mamma had attained the size of a goose's egg, etc. The rapid dissemination of the disease showed its intensely malignant nature, and its occurrence after an insignificant injury, and the difficulty of making an early diagnosis, impressed the necessity for further study of these cases.

The paper contained a reference to 84 cases of sarcoma, treated the past eighteen years in the New York Hospital, and in the private practice of Dr. Weir and Dr. Bull. The subsequent history of 39 of the cases was given, 26 having a fatal recurrence. Gross had collected a large number (nearly two hundred) cases of sarcoma of the long bones, but of this number none involved a metacarpal bone. Thirteen were periosteal, the malignancy in these cases being greater than where the disease started in the centre of the bone. The chief characteristics of superiosteal sarcomata might be summarized as follows: History of traumatism (present in 7 of the 13 cases collected by Gross and in 3 of the author's) early pain; both pain and traumatism were much more frequent in round-celled than in spindle-celled sarcomata; usually fusiform, seldom encapsulated; tendency to early infiltration; soft, elastic, non-pulsating; in thirty-eight per cent. the lymphatics were enlarged; rapid increase in size; discoloration of the skin in about half the cases; pulse relatively too high for the temperature. Of Gross's 13 only 1 was known to have been cured.

In the author's collection there were 8 cases of undoubted sarcoma of the muscles—4 in the triceps, 1 in the gastrocnemius, the others in the adductors of the thigh. Nearly all recurred within twelve months. It was probable one of Dr. Bull's would remain cured. The tables gave little information regarding heredity. His own patient had an ancestor die of a tumor of the lip, probably an epithelioma.

The author here dwelt somewhat upon the influence of erysipelas on sarcoma. A number of cases had contracted erysipelas accidentally, and had been improved for a time, and many had had no recurrence of the sarcoma. Others had been cured by intentional inoculations with the erysipelas virus. This treatment had been practised to some extent in Germany, very little in other countries, not at all here, although he thought that of the large number of hopeless cases in the several hospitals throughout the land it certainly deserved a trial. Dr. Bull had operated on one case of sarcoma five times in about three years. The last time the tumor recurred quickly, was large, and probably would have proven fatal, but erysipelas developed accidentally, the malignant growth disappeared, and the man had remained permanently cured. Inoculations of the erysipelas virus had also proven of some success in keloid and carcinoma.

The CHAIRMAN made some remarks on the great difficulty of making an early diagnosis of sarcoma, except possibly in sarcoma of the skin. Three or four physicians were likely to treat the case before its true nature would be recognized. In doubtful cases he would recommend early microscopical examination of a section. He thought inoculations with the germ or virus of erysipelas ought to be tried in the treatment of sarcoma in this country, especially in the hopeless cases.

Reproduction of Bone from Blood-clot After Excision of the Knee.—DR. JEWETT presented for Dr. A. M. Phelps, who had a call out of town, two patients, the first one of whom, a girl aged nineteen, gave a family history of phthisis in both parents. At the age of twelve she had an abscess two inches below the knee, which broke and remained open a year. Since then the knee had been tender. When admitted to the Charity Hospital in September last there was pain and swelling over the knee, which increased, and she was unable to stand on the leg. January 3, 1891, Dr. Phelps excised the knee, removing about two inches from the lower end of the femur and two inches of the upper end of the tibia and fibula, saving the periosteum as far as possible. Put the limb up in plaster-of-Paris, dressed to favor bone formation from the blood-clot. The leg was retained in the splint until April. There was an inch shortening. The patient could now support herself on the limb, but used crutches, owing to some soreness at the line of incision through the skin. There was apparently bony union.

Suture of the Wrist-Tendons.—The second patient presented by Dr. Jewett for Dr. Phelps was a young man who had been admitted to the hospital January 29th last, having received a transverse cut across the wrist December 21st. He was treated outside for five weeks, and came to the hospital for correction of deformity resulting from retraction of the tendons. The median nerve had also to be sutured. The tendons had markedly retracted, and become individually indistinguishable. These were united *en masse*. The wrist could now be straightened to nearly a direct line, sensation had been in some degree restored, the motion was somewhat restricted because of restraint until recently by the dressings.

A Vegetable Plate; a New Technique in Lateral Anastomosis.—DR. R. H. M. DAWBARN read a paper, describing experiments which he had made with vegetable plates which should take the place of Senn's bone plates, Abbe's catgut rings, etc., in making lateral anastomosis, especially in emergency cases (see vol. xxxix., p. 725).

The paper was discussed by Drs. Abbe, B. F. Curtis, Samuel Lloyd, and the Chairman. They all thought the potato plate might prove useful, but did not think intestinal anastomosis should be an emergency operation. Better if necessary form a fistula, and leave the more formidable operation until the patient had recovered from shock and its performance seemed necessary. They offered some criticisms upon the new technique which the author said, in closing the discussion, were without practical basis.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, March 25, 1891.

H. M. BIGGS, M.D., PRESIDENT, IN THE CHAIR.

An Abdominal Tumor.—DR. H. P. LOOMIS presented some tumors which had been removed by operation from a woman, forty-six years of age, who had been in excellent health up to about two years before, when she began to suffer pain in the left side of the abdomen, and this was accompanied by a rapid development of ascites. Up to three months ago she had been tapped four times. At the time of her admission to the hospital the abdomen was greatly distended, and she suffered considerably from dyspnœa. A microscopical examination of the fluid showed nothing characteristic. Various diagnoses had been made—simple ascites, cancer, ovarian tumor, and cirrhosis. On making an exploratory incision, about four gallons of serous fluid gushed out of the abdomen, and in the lower portion of the cavity, these tumors were found floating in the fluid.

The growths were situated upon both sides, being somewhat adherent on the left, and they presented a cauliflower appearance. The Fallopian tube on the left side was filled with blood-stained fluid and it was ligated near to the uterus and removed. The patient recovered promptly from the operation, and is now perfectly well. Microscopical examination of a section of the growth showed finger like projections covered with cylindrical epithelium, recently formed connective tissue, and acini running down into the tissue.

Dr. Loomis said he would like the opinion of the members in regard to the nature of the growth, as the diagnosis in his opinion lay between papilloma, adenoma, or cylindrical-cell epithelioma.

DR. J. S. ELY thought it was a papilloma, and he suggested that it might have grown from the surface of the

ovary, the epithelium covering it being the analogue of the germ epithelium originally covering the ovum.

Dr. T. M. Prudden said that he would not hesitate to pronounce the tumor a papilloma, or more correctly a papillo-adenoma; and as to the origin of the growth, he thought it probable that the adenoma, instead of being confined in cysts, had worked its way through into the abdominal cavity, and therefore it was not necessarily derived from the germ epithelium. He had often seen this process in both ovaries, but usually not to the same extent.

The President concurred in the diagnosis of papillary adenoma, and said that he had seen one case in which the macroscopical and microscopical appearances were almost identical with those found in this specimen, and in which subsequently multiple growths appeared on the surface of the peritoneum. In this case there was considerable fibro-purulent exudation in the peritoneum, and a diagnosis had been made of tubercular peritonitis. As permanent drainage of the peritoneum had been established, it was possible that the peritonitis was the result of this drainage.

Dr. Prudden said that he had seen one such case in which so much had to be removed from the abdominal cavity that the operation was abandoned. No autopsy was allowed.

Pulmonary Tuberculosis.—Dr. H. P. Loomis also presented the lungs from a patient with pulmonary tuberculosis, who had been treated for three months with Koch's tuberculin.

C. D——, aged forty-seven, a laborer, was admitted to Bellevue Hospital on the 10th of last December, suffering from phthisis. Two years before, he had pneumonia, and it was fully two months before he completely recovered from this. With this exception, he was perfectly well up to three months before admission, when he was seized with a hemorrhage, followed by the ordinary symptoms of phthisis. Consolidation was confined to the apex of each lung, but the physical signs were more marked on the left side. An examination of the sputum showed one or two tubercle bacilli in each field. The case was considered a promising one for treatment with Koch's lymph, and the first injection was given on December 19th.

This was the first patient inoculated at Bellevue Hospital, and he received in all sixty-three injections of .001 c.c. each, the largest number given to any one patient. The injection was followed by an increase in all the physical signs, but after the first week the disease in the lungs apparently became quiescent and but few râles could be heard. For about two months there was a slow but steady improvement in the patient's general condition and he gained five pounds in weight, although the process in the lung seemed to remain about the same and the number of bacilli and the amount of sputum did not diminish. There were no fever reactions following the injections, the temperature ranging from 98.5° to 101° F. On February 25th, a cavity was first noticed at the left apex. On March 2d he caught a severe cold and immediately began to fail rapidly, so that in ten days he was unable to sit up in bed. Death occurred on March 15th.

The autopsy was made fourteen hours after death. Rigor mortis was present. The heart weighed half a pound; the valves appeared to be normal; there were a few atheromatous patches along the first portion of the aorta. The left lung was so adherent at the apex and over its posterior border, that it was impossible to separate it without lacerating the lung substance. The upper portion contained a number of inter-communicating cavities, the largest an inch and a half in diameter. On opening these cavities they were found to contain a reddish-brown grumous fluid, made up of broken tissues and red blood-corpuscles. The walls of the cavities were trabeculated and of a greenish necrotic color, and they were surrounded by a deeply pigmented zone of dense-looking tubercular tissue. The rest of the lung was of a deep-red color, and scattered through it were clusters of miliary tubercles surrounded by zones of intense congestion. These clusters were not aggregated, but separated by areas of apparently healthy tissue. All along the external border of the lung were cheesy tubercular masses, the size of a pea. The right lung showed in the lower portion of its upper lobe an area of slate-gray color, three inches in diameter, solid, with disseminated tubercles. It contained a number of cavities, none larger than a small pea. On the surface and in the substance of the lower lobe were a few clusters of miliary tubercles. The rest of the lung was emphysematous. The processes in the right lung appeared to be active and progressive; those in the left, quiescent and healing. There was apparently no recent eruption of miliary tubercles. The microscopical examination of a section through the walls of one of the cavities in the left lung showed tubercular material containing giant cells projecting into it. At the base of these projections were continuous areas of round cell infiltration, all the vessels near the cavity were intensely congested, and from some of them hemorrhages had occurred. The vessels removed from the cavity were not engorged. Areas of necrotic tissue were seen about the cavity. In all the sections examined the most striking change, aside from the excessive round-cell infiltration and intense hyperæmia, was the evidence everywhere of new connective-tissue formation. Very little old connective tissue was seen. Around the necrotic areas and in the alveolar walls the round cells were seen elongating into spindle cells, and new fibrous tissue was forming. The interlobular connective tissue was greatly increased by very recently formed fibrous tissue. Under the microscope the processes in the lungs appeared to be decidedly conservative; there was no extensive eruption of miliary tubercles found. The liver was of normal size and microscopical examination showed fatty infiltration and some cirrhosis. The intestines were normal with the exception of three tubercular ulcers, one the size of an almond and the others of a split pea. These were found in the lower portion of the ileum. No miliary tubercles could be detected in the wall of the intestines. The kidneys showed a moderate amount of chronic diffuse nephritis. The brain was not examined.

Hernia Simulating Abscess.— Dr. T. Halsted Myers presented an incarcerated omental hernia, protruding through the abdominal walls near the umbilicus, with a very long and narrow pedicle, which prevented impulse and made the tumor very movable. The surrounding integument was considerably indurated and there was a distinct inflammatory areola one inch in diameter about the mass, which thus closely simulated abscess.

Cystic Kidney.—The President presented a cystic kidney which had been accidentally found in the body of a man sixty years of age, who had died of acute lobar pneumonia, and without any history of renal disease. In a number of cases of congenital cysts of the kidney which he had seen the whole organ was involved, and the kidneys were of enormous size. One of these cases occurred in a woman who died just after childbirth, and who had been previous to this in apparently good health. In that case a most careful microscopical examination showed no normal renal tissue. In another case which had come under his observation the kidneys together weighed eighteen pounds, and the cysts were somewhat larger than in the present specimen, and existed in enormous numbers.

Dr. H. P. Loomis thought the specimen showed the cystic condition occasionally observed in very old persons. He thought it hardly probable that such a condition had existed since infancy without any symptoms referrible to the kidney.

Dr. Prudden considered the specimen one of congenital cyst of the kidney, for he was not aware of any such collection of cysts developing at a subsequent period. Although remarkable, it was nevertheless a fact that such

kidneys often functionate in a certain way for years. Dr. J. S. Ely had some time ago presented the kidneys of a pig, in which absolutely no normal renal tissue could be detected anywhere, and yet the animal had grown to a sufficient size to be slaughtered.

THE PRESIDENT said that this reminded him of a cystic kidney which had been removed from a lamb at one of the slaughter houses, and had been brought to him for examination. It appeared to be identical with the congenital cystic kidneys seen in the human being.

The President presented the heart which had been removed from a patient who had been admitted to Bellevue Hospital for "destitution," and who was in such a feeble condition that no very thorough examination was made during the few hours which elapsed between the time of admission and death. Death apparently occurred from heart-failure. The autopsy showed a large thrombus in the apex of the left ventricle, and similar thrombi in the apex of the right ventricle and in the right auricular appendix. In the left side of the wall of the left ventricle, over a considerable area, the muscular substance was almost entirely replaced by dense fibrous connective tissue. In the right side of the wall of the left ventricle, in the interventricular septum, and involving a large part of the anterior wall of the left ventricle, was an infarction of the muscle. The muscular walls, for one-half or more of their thickness, had undergone coagulation necrosis, and the right coronary artery, just at its origin, was almost completely obliterated. In the smaller branches of the coronary artery were small thrombi. Strangely enough, there was not much change in the aorta or in its smaller branches. The extensive changes in the ventricular wall were evidently not of recent origin.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE NEW UNIVERSITY FOR LONDON—MR. WILLIAM ANDERSON ON CONTRACTIONS OF THE PALMAR FASCIA—THE CENSUS RETURNS FOR ENGLAND AND WALES—THE LONDON WATER SUPPLY—ANOTHER LUNACY BILL.

LONDON, July 18, 1891.

THE Albert University for London bids fair to soon become an accomplished fact. On Monday last the committee of the Privy Council delivered judgment, in which they practically affirmed the petition of the petitioning colleges. The new university is to be styled "The Albert University" or "The Albert Metropolitan University," but the word "London" is not to be used in the title as likely to lead to confusion between the new university and the existing university in London. The claim of the Royal Colleges of Physicians and Surgeons to control the medical examinations is disallowed and the number of representatives from the Royal Colleges and the medical schools reduced. Whether the Royal Colleges and the medical schools will consent to come into the new university on the terms proposed, remains to be seen. They have stoutly maintained their claim to more extensive representation and control, but probably they will be wise enough not to persist in standing aloof because they cannot obtain all they wish. Honorary degrees are not to be conferred in the Faculty of Medicine, nor are any degrees in medicine to be conferred, except on candidates already in possession of a qualification to practise entitling them to be registered under the medical acts. A faculty of law is to be established. Only those candidates will be admitted to the examinations of the new university who have spent a period of at least two years in study in the colleges of the new university.

In his recent lectures at the College of Surgeons, on "Contractions of the Fingers and Toes," Mr. William Anderson discussed the subject of contraction of the palmar fascia. He concluded that this term had been used to describe two forms of disease. One of these was of traumatic origin and due to common inflammatory changes in the integumental and fascial structures. It occurred at all ages. The other variety was almost confined to middle and advanced life and unassociated with obvious traumatism. This condition—true "Dupuytren's contraction"—was not, strictly speaking, a contraction of the palmar fascia, but consisted of a chronic inflammatory hyperplasia, which commenced in the subcutaneous connective-tissue and involved secondarily the palmar fascia and the deep fibres of the corium. There was a tendency to multiplicity of lesion. The morbid bands were for the most part formed at the expense of the normal tissues. This form did not appear to be connected primarily with pressure or friction of the palm by tools or other objects employed in manual occupations, but was probably caused by a specific infective agent which effected its entrance through epidermic lesions made by the finger-nails or otherwise. It occurred in all classes, was more common in men than in women, tended to progress slowly through a long course of years, and to return after operation. The disease was, he believed, connected with a special diathesis, inherited or acquired, which could not yet be expressed in any known terms; but neither gout, rheumatism, rheumatoid arthritis, nor any other of the ordinary constitutional ailments had been shown to have any causative relation to the disease. The disorder appeared to be almost, if not quite, unknown in certain parts of the East, as in India and Japan.

The (preliminary) census report shows that the population of England and Wales was 29,001,018 on April 6th last. This was 703,350 less than it would have been had the previous rate of increase been maintained during the decennial period, 1881 to 1891. An error has in consequence been made in calculating the recent annual death-rates. This, however, is not very large. The death-rate for 1890 was estimated as 19 2 per thousand persons living. We now find that the number of persons living was over-estimated. The true death-rate was consequently 19.6 per thousand, but even this somewhat larger figure compares favorably with the mortality statistics of other European countries. An interesting point brought out by the census returns is that the growth of the towns at the expense of the rural districts appears to be somewhat checked. The result of the "city day census," taken on April 27th, shows that 301,383 persons were engaged on the city (an area of about a square mile) on that day—an increase of 40,320 over the number given by the similar census taken ten years ago.

The Committee of the House of Commons, which was appointed to consider the London Water bills, has recommended that the London County Council should be empowered to inquire into the whole question, and, if necessary, to bring in a bill to constitute itself a responsible water authority to purchase the undertakings of the water companies. Provision is also made for utilizing fresh sources of supply.

That our Lunacy law is still unsettled is shown by the fact that the Lord Chancellor has thought it desirable to bring forward a new lunacy bill amending the bill passed a short time since.

FLOATING HOSPITALS FOR SURGICAL OPERATIONS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In these days of antiseptic surgery, the aim of the surgeon is to destroy all germs, so that no suppuration can occur in his wound. If he succeeds, other things being equal, his operation is a success. Now, it has occurred to me whether it would not be better to select a locality for operation where germs do not exist; where there would be no necessity for their destruction because

of their non-existence. We have been informed that in mid-ocean disease germs are very few, if not altogether absent, in the atmosphere. Following up this thought, it has suggested itself that a vessel, anchored ten miles out at sea, might offer the most favorable locality for surgical operations. There would be many drawbacks to such an idea; hence, from this ideal proposition we would deduce the practical idea that sea-shore localities, because of their comparative exemption from disease germs, would offer a locality most favorable for the performance of surgical operations.

JOSEPH F. EDWARDS, M.D.

147 S. ILLINOIS AVENUE, ATLANTIC CITY, N. J.

NERVE-FORCE, OR NEURICITY (?).

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The MEDICAL RECORD of July 18, 1891, takes to task the *Annals of Hygiene* and the *Lancet* for their explanations of the loss and gain of thrift by two persons who sleep together, and is especially severe on the use of the expressions "eliminate nerve-force" and "absorb nerve-force."

Why are these terms not as applicable to nerve-force as to heat? The former is no more "occult" than the latter before it becomes sensible from a state of latency. It is true that the laws which govern the one are not so well understood as those which regulate the other, because neurology is comparatively a modern science, and is just beginning to take its merited position abreast of the other sciences.

Electricity is evolved by the friction of amber (electron), and is named from that circumstance; why may not nerve-force be evolved by friction or irritation of nerve (neuron), and be called neuricity? Electricity is also evolved by chemical action; why may not neuricity be evolved by chemical action, the breaking up and mak ing up of the compounds in the protoplasm of tissue-cells, during the processes of metabolism?

While neuricity is not identical with electricity, heat, or magnetism, and is not subject to the same laws, yet, in my opinion, it is a fluid force and a correlation of the natural forces. It is no great distortion of facts nor violation of reason to suppose that it may be absorbed or eliminated, accumulated or conducted, and by other media than the nerves.

In discussing reflex action, it is usual to say the peripheral end of the nerve is irritated, or a body impinges upon it. The "irritation," or "impulse," is conducted to the centre, and thence reflected. To my mind, the idea contained in the expression to conduct or reflect an irritation, or impulse, is of the "most fantastic and unsubstantial character," and hard to comprehend—indeed, absurd. How much simpler the thought that neuricity is evolved by irritation or impingement, flashes along the afferent fibre to the centre, and thence along the efferent to an organ or tissue.

There is no just reason why neuricity may not pass from one person to another, as electricity from cloud to cloud or the earth, when one is in the positive and the other in the negative condition.

"How is it that children thrive, that kittens grow, and that the average duration of life of the married is longer than that of the single?" Because of the similarity of the nervous states of children of the same family and kittens of the same litter. An equilibrium is early attained between the different states of nervous force in man and wife.

G. W. DRAKE, M.D.

CHATTANOOGA, TENN., July 21, 1891.

Decreasing Death-rate of Phthisis.—Thanks to new sanitary measures in England, there has been a diminution of more than thirty per cent. in the death-rate from consumption since 1861.

New Instruments.

A NEW FORCEPS FOR ADENOID GROWTHS.

BY R. C. HODGES, M.D.,

GALVESTON, TEXAS.

THE adenoid forceps ordinarily employed are frequently a source of danger to the uvula and soft palate, as the crossed or scissors action is apt to pinch or cut. In operating on these adenoid growths in the vault of the pharynx, very often one is obliged to dispense with a palate retractor. This is most frequently the case in operating on children.

To avoid injuring, and at the same time to admit of lifting and retracting the palate, I have devised this forceps. The spreading of the blades enables the surgeon to cut freely and avoid the uvula. Another advantage is the large cutting surface. I have found this instrument very useful and practical, and believe that it possesses all the advantages of other forceps and is superior to all of them in the points I have mentioned. The instrument was made for me by E. B. Meyrowitz, New York.

AN IMPROVED NEEDLE-HOLDER.

BY DIXI CROSBY, M.D.,

NEW YORK.

IN trying to select a needle-holder which would combine strength, ease of manipulation, asepsis, and simplicity, I found that I was completely in the dark. Of the simpler

instruments most of them closed easily, but to open them required that exertion which would of necessity oblige the operator to use both hands, or, which to me is much worse, unsteadiness, and as a result not the fine work that should be done, especially in cosmetic surgery. After the experience of St. Patrick's day at Bellevue Hospital, I had the following described instrument built by Messrs. Hazard, Hazard & Co. It consists of simple forceps,

after the model of Professor McBurney, perfectly smooth and polished, with the French lock and the catch at the tail-piece. The instrument being closed on the needle, it is held by the notches as shown in the cut. To open it but requires an additional pressure, thus allowing the muscles of the hand the greatest advantage in action, and therefore securing to the operator the double advantage of steadiness and perfect control. At the suggestion of Professor Samuel Alexander, artery forceps of the same general model are being made.

One feels, in introducing a new or modified instrument now, as if he might be carrying coals to Newcastle, but with the hope that it may prove to the profession as convenient as it has to me, I offer it; with but the wish that it may add even a drop in the vast ocean of means at the command of the modern surgeon.

"The Croisic," 218 Fifth Avenue.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 26, 1891, to August 1, 1891.

Munn, Curtis E., Surgeon. Granted leave of absence for twenty days, to commence on or about August 5, 1891.

Powell, Junius L., Assistant Surgeon. Granted leave of absence for two months on surgeon's certificate of disability, with authority for his admission to the Army and Navy General Hospital, Hot Springs, Ark.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 1, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	30	7
Scarlet fever	104	19
Cerebro-spinal meningitis	1	1
Measles	133	11
Diphtheria	82	21
Small-pox	0	0
Varicella	3	0
Pertussis	0	2
Erysipelas	0	0
Mumps	0	0
Rötheln	0	0

The Congress of American Physicians and Surgeons.—Circular No. I., dated Washington, June 24, 1891, reads as follows: The Committee of Arrangements takes great pleasure in announcing to the members and invited guests that the arrangements are sufficiently advanced to assure the success of the second triennial session of the Congress of American Physicians and Surgeons, which will be held in this city during the 22d, 23d, 24th, and 25th of September, 1891. A number of distinguished physicians and surgeons from abroad have accepted the invitation to attend, among whom may be named Mr. Thomas Bryant, Mr. B. E. Broadhurst, Mr. A. E. Durham, Mr. Reginald Harrison, Surgeon-General Sir W. E. McKennin, Mr. U. Pritchard, Mr. F. Treves, Sir William MacCormac, Dr. James G. Glover, and Dr. William M. Ord, of London, England; Dr. McCall Anderson and Dr. W. T. Gairdner, of Glasgow; Mr. E. H. Bennett and Professor J. J. Cunningham, of Dublin; Professor John Chiene and Dr. J. Battey Tuke, of Edinburgh; Professor H. Krause and Dr. F. Beeby, of Berlin; Professor Curschmann, of Leipsic; Professor Hoffa, of Würzburg; Professor Kuhne, of Heidelberg; M. Emil Juval, M. E. Landolt, and Dr. Pozzi, of Paris; Dr. A. Mosso, of Turin; Dr. von Mozengeil, of Bonn; Dr. Lowenber, of Paris; and Dr. Rafail Lavista, of Mexico. The sessions of the congress will be held in the main hall of the Grand Army Building, 1412 and 1414 Pennsylvania Avenue, from 3 to 6 P.M., daily. The president's address will be delivered in the lecture hall of the National Museum, Wednesday, September 23d, at 8 P.M., followed by the reception of the president, from 9.30 till 12. Order of executive committee. The Army Medical Museum will be open the same evening. The sessions of the societies will be held according to the programmes of each, respectively, in the places as follows: American Surgical Association, main hall, Grand Army Building, 1412 and 1414 Pennsylvania Avenue; Association of American Physicians, hall No. 1, Grand Army Building, 1412 and 1414 Pennsylvania Avenue; American Climatological Association, hall No. 2, Grand Army Building, 1412 and 1414 Pennsylvania Avenue; American Gynæcological Society, lecture hall, Columbian University, 15th and H Streets, N. W.; American Laryngological Association, parlor A, Arlington Hotel; American Neurological Association, parlors 182 and 183, Arlington Hotel; American Orthopædic Association, new reception-room, Arlington Hotel; American Otological Society, ladies' parlor, No. 1, Arlington Hotel; American Ophthalmological Society, ladies' parlor, No. 2, Arlington Hotel; American Physiological Society, parlor 181, Arlington Hotel. The officers of the American Dermatological Association and the American Association of Andrology and Syphilology have made their arrangements with the Shoreham for places of meeting. Office of registration, parlors 1 and 2, Arlington Hotel. From this office the mail of members and guests will be distributed, and the city residence of each member or guest can be ascertained. The Association of American Anatomists will meet in this city during the sessions of the congress, and will occupy hall No. 3, Grand Army Building. The American Pædiatric Society will meet here September 23d and 24th, in the lecture hall of Columbian University, 15th and H Streets, N. W.

The congress will be composed of the members of the constituent societies and invited guests. A registration fee of five dollars will be required of every member of the constituent societies who may register; invited guests will not pay the fee. Order of executive committee. Participating societies can "accredit visitors to the congress, who shall pay the registration fee, but shall not be privileged to participate in the deliberations of the congress." Order of executive committee. A copy of the transactions of the congress will be sent to each person who may register. Only those who may register, invited guests, and ladies accompanying them, will be admitted to the reception of the president. Secretaries of constituent societies are requested to supply this committee with the names and addresses of "accredited visitors." The evenings of Tuesday, September 22d, and Thursday, September 24th, are left to the societies. Members of the American Surgical Association and of the Association of American Physicians will conjointly entertain their foreign guests at dinner at the Arlington Hotel, Thursday, September 24th, at 8 P.M. The American Gynæcological Society has also arranged for a dinner at the Arlington Hotel, Thursday evening, September 24th. The American Pædiatric Society will give a dinner September 24th. Other societies that intend to entertain their foreign guests are requested to communicate with this committee. Arrangements are in progress to secure reduction of railway fares. As soon as completed, the information will be communicated to each member and "accredited visitor." The Arlington Hotel offers accommodations at the rate of four dollars a day, and the Hotel Arno offers rates "on the American plan at three and four dollars a day, on the European plan at one dollar a day. Exclu-

sive use of bath one dollar extra." A blank certificate of registration will be sent to each member and "accredited visitor." The committee requests each person receiving such certificate to fill the blanks and return it, with the fee, to Dr. John S. Billings, treasurer of the congress. The American Pomological Society, and perhaps other societies, will meet in this city September 22d–25th. The committee therefore suggest to the members an early arrangement for hotel accommodations. Inquiries relating to railway fares must be addressed to Dr. S. S. Adams, 1632 K Street. A complete roster of membership of the congress has been prepared, with post-office address and society to which each member belongs. The committee will take pleasure in answering any inquiry relating to the local arrangements of the congress.

Signed, Samuel C. Busey, M.D., *Chairman*, 1545 I Street, N. W.; John S. Billings, M.D., Army Medical Museum; W. W. Johnston, M.D., 1603 K Street, N. W.; R. T. Edes, M.D., 1214 18th Street, N. W.; S. O. Richey, M.D., 732 17th Street, N. W.; J. Taber Johnson, M.D., 1728 K Street, N. W.; I. E. Atkinson, M.D., 605 Cathedral Street, Baltimore; C. F. Bevan, M.D., 807 Cathedral Street, Baltimore; Samuel Johnson, M.D., 204 Monument Street, Baltimore; Samuel Theobald, M.D., 304 Monument Street, Baltimore; H. Newell Martin, M.D., Johns Hopkins Hospital, Baltimore; De Forest Willard, M.D., 1818 Chestnut Street, Philadelphia.

The Abuse of Morphia in Paris.—The improper use of morphia subcutaneously is said to be extending very rapidly in Paris, with deplorable results, both mentally and physically, to the unhappy victims of the seductive habit. To meet the demand of the morphiamaniacs certain speculators have recently opened two establishments, to which people can go to have their craving after the poison gratified—the one for men, the other for women. They are not clandestine houses; the police are quite aware of their existence, and everything is decently and properly conducted at them. The drawing-rooms in which visitors are received are luxuriously furnished, and provided with books, newspapers, etc., for those who care for them. The price charged for the first injection of morphia is five francs, succeeding ones being half that price. A journalist who visited these establishments says the majority of the visitors were young men and young and pretty women.

Pathology of Grief.—That severe mental distress or fright sometimes produces physical disease, and occasionally even death, is an admitted fact, although the way in which it acts has hitherto been but little studied. In order in some measure to supply the deficiency in our knowledge regarding this matter, Dr. G. Bassi has recently made a number of observations on animals which apparently died in consequence of capture. Birds, moles, and a dog which had succumbed to conditions believed by Dr. Bassi to resemble those known among human beings as acute nostalgia and "a broken heart," were examined post mortem. Generally there was hyperæmia, sometimes associated with capillary hemorrhages of the abdominal organs, more especially of the liver, also fatty and granular degeneration of their elements, and sometimes bile was found in the stomach with or without a catarrhal condition. The clinical symptoms were at first those of excitement, especially in the birds, these being followed by depression and persistent anorexia. The theory suggested by Dr. Bassi is that the nervous disturbance interferes with the due nutrition of the tissues in such a way as to give rise to the formation of toxic substances—probably ptomaïnes—which then set up acute degeneration of the parenchymatous elements similar to that which occurs in consequence of the action of certain poisonous substances, such as phosphorus, or to that met with in some infectious diseases. In support of this view, he points out that Schule has found parenchymatous degeneration in persons dead from acute delirium, and that Zenker found hemorrhages in the pancreas in persons who had died suddenly. He refers also to some well-known facts concerning negroes in a state of slavery, and to the occasional occurrence of jaundice after fright. He hopes that these hints may induce medical officers of prisons and others to study both clinically and anatomically this by no means uninteresting or unimportant subject. *Lancet.*

Are Improving.—"The social relations among physicians are constantly improving," said a well-known Missouri doctor. "I can recall the time when doctors were extremely jealous, and even at their conventions would show a strong disposition to quarrel."

"Yes, that's a fact," answered a doctor who stood near. "Take our last convention, for instance. But two of the men that were shot died from the effect."

"Only one," said the first doctor.

"No, two."

"I ought to know. I was there."

"So was I."

"Then you ought to know what you are talking about."

"I do."

"You don't."

"You are a butcher."

"You are a liar."

A lawyer came up and separated them.—*Western Medical Reporter.*

The Temperature of the House in Winter.—We have lately read a very interesting article in one of the daily newspapers in regard to "Our Indoor Climate." The author is very critical of Americans for having so much artificial heating in our houses, but we think he has overrated the dangers from that source. The chief danger in New York City, from Christmas until April, is not from too warm houses, but from too cold ones, and those in which the temperature varies very much. We can get on out-of-doors with exercise and overcoats and sealskins; but inside the temperature ought to be kept up to 70° F. for most people, and for some old people in hospitals, 73° F. to 75° F. is not out of the way. The English are the great apostles for being uncomfortable inside their houses. The result there is seen in the great prevalence of rheumatism and also of aural diseases. It is very difficult to get warm in London or Paris in the winter. And we do not believe it ever does anybody any good to be just the other side of being warm. A man is as uncomfortable at 40° F. as he is at 20° F. It is possible that New Yorkers are a little careless in varying the heat in their houses, but not in keeping them too warm, we think. To keep warm is very often to keep well.—*The Post-Graduate.*

Ether-drinking in Ireland.—A parliamentary committee recently reported that the use of ether for drinking was quite common in South Derry and a portion of Tyrone, but not, as has been stated, in other portions of Ireland. The ether used is generally impure, and is made from methylated spirit. The character of the drunkenness is much the same as with whiskey, but it is more rapid in its action, while, as the after-effects are not so disagreeable, a person may get drunk two or three times in the day at very slight cost. In order to combat the habit it has been determined to declare the drug a poison, and so bring its sale under the restrictions of the Poisons Act.

An Early Sign of Whooping-cough.—Dr. Huguin, writing in *l'Union Médicale du Nord-Est* for May, 1891, states that he has observed several cases of pertussis in which photophobia with dilatation of the pupils was a prominent symptom in the early stage, while as yet the cough was only catarrhal in character. Conjunctivitis is not infrequently observed in the catarrhal stage of this affection, but the writer says that he has never seen dilatation of the pupil and photophobia, unaccompanied by conjunctival inflammation, mentioned among the precocious symptoms of whooping cough.

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Original Articles.

ON THE CHARACTER AND TYPES OF PELVIC INFLAMMATIONS IN THE FEMALE.

OBSERVATIONS BASED UPON A PERSONAL ANALYSIS OF THREE HUNDRED ACUTE CASES.[1]

BY HENRY S. STARK, A.M., M.D.,

NEW YORK.

My remarks upon the subject of pelvic inflammations in the female are based not so much upon the present literature of the subject as upon a personal analysis of over three hundred acute cases, most of which have come under my observation within a few years in connection with my service at the Mount Sinai Hospital, New York. These cases illustrated the many and varied phenomena of the affections, their complications and sequelæ, and have afforded me an ample opportunity of appreciating their immediate and remoter consequences. Further, this comparatively large material has furnished me with data which, on the one hand, completely harmonized with the deduction of others, and, on the other hand, led me to draw conclusions differing in several respects from those of certain other observers, and which, as I feel in a measure equipped, I shall hope to incorporate in these remarks without pretending to give a precise description of typical cases, which only weary the reader and occupy space.

From time immemorial these inflammations have attracted such widespread attention, and have occasioned such a voluminous literature, that it would be reasonable to suppose that in our own day there could be no possible conjectures in regard to their origin, nature, and causation; yet there are problems connected with the subject bearing on these points which have baffled the most thoughtful observers, and are consequently no nearer solution, even in this progressive age of medical thought and enlightenment, than they were when this subject first engaged the minds of medical men.

The great Ricord once described heaven as a place where he would not expect to meet with cases of gleet; reasoning by analogy the gynecologist's idea of Paradise would be some place where he would no longer encounter cases of pelvic inflammation, for certain it is that these fell disorders constitute so large a proportion of diseases for which he is consulted, that if by some special dispensation of Providence they were no longer to prey upon our child-bearing humanity, it might well be said that, like Othello, the gynecologist's occupation would be gone. There are not many women who, during their menstrual activity, have not been the victims of some pelvic inflammation of greater or lesser intensity. The fact that an attack may be so slight in character that the local phenomena of the affection may escape detection, cannot fail to be recognized as strong corroborative evidence that the attack may be overlooked or detected according as the practitioner is ill- or well-informed on this particular theme. Thus every summer when the diarrhœas of gastro-intestinal diseases are prevalent, a number of cases of pelvic inflammations which are ushered in or attended with diarrhœic movements are misinterpreted as acute gastritis, enteritis, or colitis, as the case may be, and may run their course unrecognized, or remain unrecognized until, at an advanced period of their progress, an examination reveals the presence of a pelvic exudation. Thus also have I seen a number of afebrile cases of pelvic inflammation, attended only with constipation and vague abdominal pains, in which the true significance of the clinical picture was also misinterpreted by physicians in whose hands these cases had originally fallen. Apropos, I distinctly recall the case of a girl, nineteen years of age, suffering from diarrhœa, indefinite abdominal pains, and the symptoms of a high temperature, who had been regularly visited for two weeks by her physician, and had been treated by him for typhoid fever. Two or three days before her death I first saw her, and on vaginal examination mapped out an exudation involving the whole pelvic roof. Questioning the physician, I elicited the fact that a vaginal examination had not been made, as he had considered it "a clear case of typhoid fever."

The term "pelvic inflammation" would properly include an inflammation of any organ or tissue within the pelvic cavity, but throughout this paper the term will be employed collectively to include a pelvic peritonitis or a pelvic cellulitis in preference to any other nomenclature, and with the conviction (since the two varieties generally coexist, the one or the other preceding and predominating) that there are no constantly recurring pathognomonic features peculiar to each which would enable the practitioner to make the differential diagnosis in all cases with positiveness. In this connection you vividly recall the schematic representation in parallel columns of the differential diagnosis found in most text-books. This table charitably informs the reader that if the patient's one leg be drawn up he is dealing with a cellulitis, if both legs be drawn up the indications are those of a peritonitis; that in cellulitis the tongue is coated, in peritonitis it is clean and red; further, that in cellulitis the uterus can be moved without excessive pain, in peritonitis it cannot; then follows a conglomeration of equally instructive data, enumerated in the same confidential and categorical strain. Equipped with this carefully acquired information, the average medical student leaves his college believing himself prepared to cope with the exigencies of his female *clientele*, and applies his lore promiscuously for weal or for woe. This is neither an overdrawn nor an imaginary picture, but a plain statement of the truth, as many of the younger generation of physicians could substantiate. What other object authors who recommend such schedules can have than to accommodate enterprising quiz masters, or to mislead timid students, I fail to understand; for surely their own vast experience must have taught them that the differential diagnosis cannot be drawn on any such hard-and-fast lines.

A moment's consideration of the nature and relation of the anatomical parts involved in these inflammations, and of the similarity of their local and constitutional effects, will convince the most sanguine that any claim to make a differential diagnosis, with any degree of certainty, in all or even most cases, and to locate precisely the seat and extent of the inflammatory process, is one that borders on the chimerical, and must be considered *cum grano salis* even when emanating from specialists. To me it has always been a matter of surprise to observe with what ease and contentment some physicians will diagnosticate the one or the other inflammation, and merely on the preponderance of a certain train of subjective symptoms,

[1] Read at the May meeting of the Alumni Association of the Mount Sinai Hospital.

or from the amount of awe with which the gravity of individual cases inspires them.

In that set of cases in which the seat of inflammation involves the broad ligaments, it can hardly be conceived that one species of inflammation could occur without subsequently giving rise to the other from extension by continuity or contiguity of surfaces, nor would it be reasonable to suppose that the combination of the two varieties of inflammation in these latter cases would occasion any difference in the complex of symptoms or in the sequence of events from that produced by either inflammation, if it were to occur singly; for the anatomical elements of the broad ligaments, viz., peritoneum and connective tissue, are so intimately blended and so luxuriously supplied with blood and lymph-vessels that one cannot conceive a more perfect mechanism for the reception, transmission, and propagation of infectious matter than this intricate partition stretched across the pelvic cavity. As well might one believe that a pneumonitis would occur without its complicating pleuritis, as to imagine that within the broad ligaments one species of inflammation would occur without its correlative species. In the utero-sacral and utero-vesical regions the anatomical conditions, with respect to the distribution and relation of serous membrane and connective tissue, are similar to those in the broad ligaments, and consequently the liability to a combination of the two inflammations is as great. Since, then, it may be fairly claimed that the two varieties are reciprocally and inseparably related, it is of paramount importance that the fact become properly recognized by associating with these inflammations a more appropriate nomenclature than is the custom at the present day. The terms pelvic peritonitis and pelvic cellulitis, or perimetritis and parametritis, are inadequate, as they indicate a distinction which exists theoretically, but not clinically. Terms should be coined which would tersely express the duplicate and compound nature of these inflammations, and which would, at the same time, convey the idea of the locality of lesion.

It is not claimed that all cases present these drawbacks toward differentiating between the two varieties to the same extent; on the contrary, there are many cases in which the differentiation is made readily enough from the locality of the exudation; a bulging, for instance, on the left side of the vaginal fornix may be safely interpreted as due to a primary and predominating cellulitis, while an exudation in Douglas's pouch most frequently points to a primary and predominating peritonitis. But the point intended to be emphasized is, that since the clinical picture and the pathological products and residues are so self-same, a thorough differentiation cannot be made with mathematical precision at the bedside, but rather in the post-mortem room, and that therefore any wholesale attempts to make a close clinical discrimination should be gainsaid, as they would be based upon fancy rather than upon sound judgment. If, then, this state of affairs is a hindrance to the specialist, it presses with double weight upon the general practitioner, for he most frequently sees these cases in their acuter stages.

While alluding to the inadvisability and difficulty of discriminating between the inflammations affecting the pelvic peritoneum and connective tissue, I would further call your attention to an allied periuterine condition of comparatively frequent occurrence, yet rarely recognized, a condition mentioned in few text-books, and only treated of in outline at that, namely, acute and chronic inflammation of the periuterine lymphatic ganglia and vessels, the so-called pelvic lymphadenitis and lymphangitis. That there is such a distinct pathological entity, manifesting itself by distinctly recognizable physical signs, and unaccompanied by kindred secondary inflammations, in other words, apparently idiopathic, has been abundantly demonstrated by post-mortem examinations and clinical observations.

The first to allude to the pathological significance of this lesion, both in puerperal and non-puerperal states, was Championnère,[1] in 1870 and 1875 respectively. Next Leopold,[2] of Leipzig, minutely described the uterine lymphatics and demonstrated the great susceptibility of this vascular system to microbic infection. To him the profession is indebted for the most complete knowledge we possess of the uterine lymphatic system. He considered the mucous membrane of the uterus as a vast lymphatic surface, dotted with numberless gaping orifices or portals, through which septic matter could find a ready ingress and communication with the lymph spaces of the pelvic peritoneum. In this country, Carreau[3] was the first to observe and report cases of pelvic adenitis; but to Dr. Paul F. Mundé[4] is due the credit of having first brought the subject prominently before the American reader in an elaborate article, in which the signs and symptoms are graphically described, together with the report of six cases which came under his observation in rapid succession. For the most complete description of this lesion, I would refer the reader to the work of the French writer, Courty.[5]

The fact that no mention is made of this lesion in the more familiar text-books, and consequently that this disease has not been credited as yet with any particular status in our gynecological nosology, by no means challenges its importance or disproves its identity, for it is certainly within the pale of belief that the pelvic lymphatic may become inflamed under the same exciting causes as the lymphatic system elsewhere. Indeed there are plausible reasons, depending on autopsical evidence, for believing that the pelvic lymph-vessels and glands are frequently the very nidus of infection, from which in turn septic processes spread in all directions.

This scanty allusion to the subject of pelvic lymphadenitis will, it is hoped, make it appear that these inflammations are a much more frequent incidence than one would be led to believe, and that many cases of so-called pelvic peritonitis and pelvic cellulitis are merely unrecognized instances of it. The knowledge that inflammations and other affections of the pelvic lymphatics will determine a symptomatic aggregate tolerably well-defined, yet quite analogous to that produced by other pelvic inflammations, seems to offer a satisfactory explanation for our extreme liability to overlook the affections of the pelvic glands; for pelvic lymphadenitis, lymphangitis, peritonitis, and cellulitis, especially in their chronic forms, simulate each other so closely, subjectively and objectively, that only those who are aware of this particular lesion, and are constantly on the look-out for its characteristic features, will occasionally find their patience rewarded by the detection of typical cases.

Still another species of pelvic inflammation, which, though of rare occurrence, occasionally makes itself manifest, and in such a manner as to simulate pelvic peritonitis or cellulitis, is pelvic periphlebitis. There being an abundance of venous plexuses within the pelvis, it is to be assumed that an inflammation might, from time to time, arise among them. Naturally enough one must possess the *tactus eruditus* to a marked degree to be enabled to detect this condition, for whenever it does occur, it gives rise to no very definite symptoms, nor is it attended with any characteristic physical signs; in point of fact, it usually remains unrecognized until after the abdomen has been opened. It is, however, reasonable to suppose that those women are predisposed to this condition who suffer from constipation and a sluggish venous circulation, as manifested by the constant presence of hæmorrhoids and varicose veins of the legs. Given a case of pelvic inflammation, accompanied with the above

[1] Championnière: Uterine Lymphatics and Uterine Lymphangitis, and the Part played by Lymphangitis in Puerperal Complications and Uterine Diseases, 1870. Uterine Lymphatics and their *rôle* in Uterine Pathology, Archives de Tocologie, 1875.

[2] Leopold: The Lymphatics of the Normal, Non-pregnant Uterus, Archiv für Gynec., 1873.

[3] Carreau: New York MEDICAL RECORD, July 2, 1881.

[4] Mundé: American Journal of Obstetrics, October, 1883. Non-puerperal Pelvic Lymphadenitis and Lymphangitis.

[5] Courty: A Practical Treatise on the Diseases of the Uterus, Ovaries, and Fallopian Tubes. Edition 1883, page 537.

phenomena, if after the acute inflammation has subsided a vaginal examination reveals neither an exudation nor any circumscribed swelling within the pelvis, periphlebitis ought certainly to be thought of. A condition which, it appears to me, highly favors, or may determine, a pelvic periphlebitis, is puerperal crural phlebitis, for it is well known that venous thrombi have often been demonstrated in the uterine and hypogastric veins of patients who suffered from this puerperal complication, which fact would make it appear that these two varieties of phlebitis are reciprocally related at times. As regards the symptomatology of phlegmasia dolens, it is equally well known that the pains attending it are at times preceded or followed by pains in the region of the pelvis, which fact would likewise arouse suspicion of the presence of a complicating or primary pelvic phlebitis.

There are those who believe that pelvic phlebitis plays a most important rôle in the causation of pelvic cellulitis and peritonitis; that is to say, that the inflammation of the veins on the one hand, and the cellular or peritoneal inflammation on the other, stand in a reciprocal relation of cause and effect. This correlation, it would appear, ought to obtain more frequently in the puerperal than in the non-puerperal state, for it is well-known that in puerperal pyæmia, for instance, the portal of infection is through the veins; consequently in this variety of puerperal infection the phlebitis would be primary, while in non-puerperal cellulitis it would be apt to be consecutive, since the *materies morbi* would be likely to enter the general circulation through the lymphatics. This fact was pointed out and verified successively by Trousseau, Courty, and our own Emmet, the latter expressing himself as follows, quoting from his text-book: "I am deeply impressed with the belief that future observation will establish the fact that the point of origin of inflammations in the pelvic cellular tissue is in the veins."

Autopsical evidence has abundantly demonstrated the fact that pelvic phlebitis is a frequent complication of pelvic cellulitis. Courty believed that the criterion available to determine the order of precedence was the presence or absence of obstructing vein-clots. If the autopsy demonstrated their presence, then the phlebitis was the cause of the cellulitis; when, however, venous clots were absent, while the tunics of the vein gave evidence of being involved in the inflammatory process, then the phlebitis was secondary to the cellulitis.

I have intentionally directed attention to these different varieties of pelvic inflammations in order to make it apparent that cellulitis and peritonitis are not the only ones, and further, to establish the fact that a clinical differentiation is well-nigh impossible in many, or rather most, cases, or, at any rate, superfluous for purposes of treatment.

Acute inflammations of the pelvic peritoneum and connective tissue are often secondary to disease of the ovaries and tubes, particularly the latter; indeed, there are reasonable grounds for believing that in many cases the cellular or peritoneal inflammation is only the final link in a chain of inflammations beginning in the uterus or its appendages. My own experience has taught me to look upon those cases of pelvic inflammation which furnish a previous history of acute or chronic cervical or corporeal endometritis, as evidenced by the usual manifestations of these affections, as the very ones in which the pelvic inflammation is a coincidence originating under some strongly predisposing influence, as sepsis, traumatism, or violence, and caused by direct extension of the endometric inflammation into the tube and ovary; or else the pelvic inflammatory process resulted from an extension of the endometritis by means of the intermuscular connective tissue of the uterus, through it to the pelvic connective tissue and peritoneum, which it is prone to do from the intimate relationship existing between the tissues of the cervix and of the pelvis. The process of extension of an inflammation in the path of least resistance finds its analogue in inflammations of all other mucous membrane tracts—the respiratory, the intestinal, and the genito-urinary canals. In the case of the last the statement is particularly applicable, for it is well known that cystitis, for example, is rarely an idiopathic, but almost invariably a secondary, affection; just so within the pelvis, neither the peritoneum nor the connective tissue are inclined to idiopathic inflammatory processes, but become frequently affected by extension of structure, in which event the order of sequence would be about as follows: Either lacerated cervix, cervical endometritis, corporeal endometritis, salpingitis, ovaritis, pelvic inflammation; or else beginning with lacerated cervix, or an erosion of the cervix, or with an endometritis, thence interstitial metritis and pelvic inflammation. I can recall quite a number of cases which illustrate these latter observations, several of them of gonorrhœal origin, in which the inflammation could be traced from the external genitalia into the pelvis; others again, were due to the absorption of septic matter during parturition or during the puerperium; in fact, it appears to be the tendency of infectious matter not to remain localized, but to spread by means of communicating channels.

Recent clinical and pathological data render it more and more certain that circumuterine inflammations are frequently secondary to inflammations elsewhere in the genital tract. This view was expressed years ago by Duncan, and at the present day the correctness of the doctrine is being generally admitted by eminent gynecologists. Thus Winckel is of the opinion that lacerations of the cervix are frequently the initial pathological conditions necessary for the production of pelvic inflammations, a view which approaches certainty when we consider the gross anatomy of the cervix; for we recall that the neck of the uterus is richly supplied with blood- and lymph-vessels which communicate with pelvic plexuses of the same; and secondly, that the tissue of the cervix communicates directly with that within the pelvis through the intermuscular connective tissue of the uterus. Thus it becomes apparent that whenever there is produced a solution of continuity on the cervix, there are exposed a number of gaping orifices of blood- and lymph-vessels which afford a ready ingress and shelter for all kinds of septic matter, and which provide a channel for its transmission to other tissues. This anatomical peculiarity of the cervix is not a matter of mere detail, but of the highest practical importance, as it reminds us of the risk attending lacerations, and teaches us to employ gentleness when manipulating the cervix.

The pathogenesis of these inflammations differs in no respect from that of inflammations of cellular and serous membranes elsewhere, except as far as may be modified by the particular locality. There are the same morbid inflammatory products derived from the usual sources, with the same tendency of the exudate to form adhesions with adjacent tissues. These bands of adhesions latterly contracting, cause displacement of the organs involved, with subsequent disturbances of their normal functions. There may result, after the subsidence of the acute attack, sterility, amenorrhœa, dysmenorrhœa, menorrhagia, metrorrhagia, or, if suppuration have taken place, the ovaries may be destroyed or undergo atrophy, or the tube may be involved and rendered impervious or dropsical. There are the same stages of the inflammation. First the period of congestion or engorgement, then of exudation, then an organization and moulding of the exudate to conform with the contour of the parts involved, then the period on the one hand of resolution and on the other of suppuration. If suppuration take place and there be no operative interference, the pus either burrows along the path of least resistance, in accordance with the laws of gravitation, until it finds a channel of evacuation, or else it becomes encapsulated by pyogenic membranes, forming a distinct cyst. In case resolution set in, the exudate disappears by absorption. The types of inflammations within the pelvis conform also with the types elsewhere, thus there may be a catarrhal, suppurative, gonorrhœal,

tubercular, or malignant variety. The order of frequency of these, as far as my personal observations are concerned, is as follows: Catarrhal, gonorrhœal, suppurative, tubercular, malignant. The catarrhal is probably the most frequently encountered, fully one-half to three-quarters of all cases, as ordinarily met with in general practice, are of this variety. They result almost invariably from parturition, or abortion, or direct extension of an uterine, tubal, or ovarian inflammation into the pelvic, serous, or connective tissue. That gonorrhœa plays an important *rôle* in the causation of pelvic inflammations is now generally recognized by the profession. As early as 1872, Noeggerath pointed out the fact that, just as acute uterine blennorrhœa might result from acute urethral infection, so chronic blennorrhœa of the uterus and its appendages might frequently, and does frequently, result from latent or chronic male blennorrhœa. In the face of the mass of evidence that has accumulated up to the present day, based on clinical observation and experimental studies, this view can no longer be relegated to the realms of uncertainty, but must be accepted as truth, especially since the gonococci have been satisfactorily demonstrated in peritoneal exudations.[1]

Noeggerath distinguished three varieties of pelvic inflammations due to gonorrhœal infection; namely, acute perimetritis with or without parametritis; secondly, recurrent perimetritis; and thirdly, chronic perimetritis. To the first class belongs that set of cases who become attacked with pelvic inflammation soon after marriage, or who complain of vague abdominal pains during their first pregnancy, and are attacked with pelvic inflammation directly after parturition, despite a rigidly antiseptic accouchement. Such cases are common enough, some of them are misinterpreted as puerperal fever. In many of them, if the attending physician be sufficiently interested in the etiology, a history of pre-nuptial gonorrhœa could be elicited from the husband. The second variety is associated with pyosalpinx. In point of fact, there are some who believe that purulent salpingitis or ovaritis is invariably gonorrhœal in origin. The third variety is usually accompanied by flexion or version of the uterus, with consequent disturbances of its physiological functions, with adhesions, with tenderness in Douglas's pouch, and in very many cases with permanent sterility. It is not difficult to understand how a bilateral pelvic inflammatory process, whether resulting from gonorrhœal infection or from any other species of infection, should be followed almost invariably by sterility. In the case of gonorrhœal infection, the fructifying virtues of both spermatozoa and ova are destroyed, or else through mechanical interference these elements are prevented from coming in contact.

There is one point of distinction which the pelvic peritoneum enjoys, which is not common to serous membranes in other localities; namely, that inflammations of the pelvic peritoneum do not spread and involve the general peritoneum. This immunity, so to speak, is by no means in the natural order of events, for the peritoneum being a continuous membrane, it would be logical to suppose that an inflammation involving the lower folds would spread by continuity of surface to the upper ends. Yet this is rarely the case, and in all the many cases which have come under my observation I can recall only a few in which a general peritonitis followed a pelvic peritonitis, and even these cases would come more properly under the category of acute general septicæmia of puerperal origin rather than of pelvic peritonitis so called. When we take into consideration the free communication of the peritoneum with the general lymphatic system, the readiness with which it receives and transmits infectious matter, the disposition of inflammations in general to propagate and extend, it becomes, indeed, a matter of surprise that general peritonitis is a not more frequent event in the history of pelvic peritonitis.

[1] Ceppi: Revue méd. de la Suisse, 1887.

Inflammations of the pelvic cellular tissue, like phlegmonous inflammations in different and distant parts of the body, are self-limiting in extent and duration; we may therefore conclude from analogy that there is no such affection, anatomically, as a chronic pelvic cellulitis *per se*. The acute inflammation, after a variable but comparatively short period, terminates either by resolution or by suppuration. If the latter, the phenomena cannot be considered as a chronic inflammation, but rather as one of its results; just as adhesions, cicatrices, displacements, subinvolution, or inflammatory residues may remain as sequelæ of the original inflammation. It is therefore necessary to discriminate between the chronic products of an inflammation and the inflammatory process itself. Thus chronic suppuration due to the presence of a badly drained abscess, a sinus, or a long, tortuous fistula, frequently enough complicates a pelvic cellulitis, but the train of symptoms that accompanied the cellulitis will long have disappeared, presuming the pus to have found a channel of evacuation; while the areolar tissue which was involved will have regained its normal histological state, except in those parts where the destructive suppurating or inflammatory process has permanently altered the anatomical elements.

Inflammations of the pelvic peritoneum, on the contrary, have, I believe, often a tendency to become chronic from the start. This would be quite analogous to what we know of the pathology of serous membranes in other parts of the body.

The well-recognized fact that women who have suffered from one attack of pelvic peritonitis are extremely liable to subsequent attacks upon exposure to the slightest predisposing influences, seems to speak for the existence in them of a latent chronic inflammatory process ever ready to break out in all its former virulence and intensity. This liability to exacerbations cannot properly be attributed to the inflammatory residues; for there are women who carry about them for years cicatrices, displacements, and adhesions of the uterus and its adnexa, that were occasioned by affections other than pelvic inflammations, and yet these same women perhaps have never suffered from any pelvic inflammation whatever. Further evidence of the persistence, or rather chronicity, of pelvic peritonitis is the fact that in some cases the attacks recur, with more or less intensity and regularity, during menstrual periods. Such cases are not uncommon. Moreover, these attacks occur without any appreciable exciting causes, which fact would go to show that there must be present a latent or dormant grade of chronic inflammation. It might be supposed that it would be an easy matter to determine this point by clinical observation, but in point of fact the determination is not so easy. In many of these cases the monthly exacerbations are not sufficiently severe to render it necessary for the patient to seek medical advice, consequently they are not under critical observation by any one physician from the beginning of the initial inflammation through all its phases and vicissitudes. The most reliable evidence would be that furnished from autopsies and physical examinations during life. Observers, generally, are at present availing themselves of these resources.

I have thus attempted to describe briefly the present views of the status of pelvic inflammations in the female. To summarize I would draw the following conclusions:

1. Idiopathic pelvic inflammation is a myth and a delusion, the inflammation is almost invariably secondary to uterine, tubal, or ovarian disease.

2. Most cases of non-puerperal pelvic inflammation, if not due to traumatism, are of gonorrhœal origin.

3. In the present imperfect state of our diagnostic resources the establishment of a differential diagnosis must be in many cases mere pedantry.

4. In the present imperfect state of our therapeutic resources the differential diagnosis is not of the very highest importance.

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THE ETIOLOGY AND TREATMENT OF ATROPHIC RHINITIS.[1]

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ATROPHIC rhinitis under its proper name, or under that of its principal symptom, ozæna, is a subject too extensively and thoroughly treated of in text-books and in general literature to make any complete review of it either instructive or interesting. It is, therefore, only my purpose here to record personal views upon some points concerning which there has been, and still is, considerable controversy and difference of opinion.

Ozæna being now generally discarded as a distinctive name of any pathological process, is regarded as the principal symptom of several; yet the ozæna which attends the formation and retention of crusts in the nasal fossa, affected by typical non-ulcerative atrophic rhinitis, is an odor perfectly distinct from that attending any other form of decomposition either in or outside the nose. Syphilitic ozæna, or the ozæna of carious intra-nasal bone, and the ozæna from a foreign body in the nose, are both distinct in character from it.

It has been stated that this odor is present where no atrophy exists (Mackenzie;[2] Gottstein[3]). These instances are of very great rarity, and as the interior of the nose, especially where hypertrophy is present, cannot be thoroughly inspected in all its parts even with the best illumination, it is impossible to exclude the existence of atrophied glands and an altered epithelium. Such cases are, I believe, the beginning of the change from hypertrophy to atrophy, and one or two such instances have come under my observation.

Rather more frequently we find atrophic rhinitis without either crusts or odor, especially in people beyond forty-five. It is impossible to say whether these cases have run their whole course without them, but although no such history is obtainable in some of the cases, it is probable that they were present in some degree at an earlier age. In other words, these are cases in which nature has cured the ozæna and left apparently unchanged the pathological process on which the symptom depended. The statement that the peculiar smell of ozæna may exist without the presence of retained secretions, should certainly be received with great reserve. Personally, I have never seen such a case, and I am inclined to believe those reported were cases in which crusts were hidden from view in the accessory cavities of the nose. Cases have been reported (I recall one) in which the crusts of ozæna existed only, or chiefly, in the antrum of Highmore. The intensity of the odor varies in different cases from almost nothing to a stench so offensive as to be unbearable.

Notwithstanding the fact that the disease sometimes occurs in persons of the very best general health and of irreproachable family history, it is more frequently seen in poor constitutions and in persons with a weak family record of health. The experience of other observers does not confirm the assertion of Voltolini,[4] that it occurs as frequently, or more so, in the rich than the poor. Heredity plays no *rôle* in the etiology of the disease. In one instance, however, I have seen it in three generations. In several instances I have seen it in sisters, once where both children were less than ten years of age. There is no proof, beyond such uncommon cases of coincidences, that the disease is contagious in the ordinary acceptance of the term. Voltolini[4] says: "In my experience the disease is a woman's disease. I have observed it almost exclusively in the female sex, in some very rare instances also in boys and men, and in these latter there was still a question if there was not something else at the bottom of it."

Massei,[1] on the other hand, says that "sex has not much influence on the development of ozæna," while Jurasz[2] shows that in his experience it is only two or three times as frequent in women as in men. In my own experience it is certainly a rarity in the male, unless depending upon some local malformation of the septum. This is in striking contrast to hypertrophic rhinitis, which is much more frequent in men than in women.

Atrophic rhinitis being most frequent in the female, and most frequently developing at the age of puberty, while it is rarely seen after the menopause in women, it is fair to conjecture that there is some unexplained influence exercised upon the course of the disease, at least as far as the ozæna goes, by the genital apparatus.

The ozæna is usually more offensive at the menstrual period than at other times. Exceptions to this are frequent, but not sufficiently so to invalidate the assertion. Nevertheless, it occurs at all ages. I have seen it in infancy and in old age. In the former, however, it must not be mistaken for the nasal lesions of hereditary syphilis. While atrophy may begin in adult life, ozæna rarely begins after thirty (Mackenzie).

Some years ago Zaufal advanced the theory that ozæna was due to congenital smallness of the turbinated bones causing an abnormal roominess of the nasal chambers; while Sauvage and Tillot (quoted by Massei), on the other hand, claimed that it was caused by a congenital narrowing of the nasal fossæ. These statements have rather an historical than a practical interest, as they have received little support from the large numbers of contributors to the literature of the subject. Clinically, we often see atrophy in one nostril associated with abnormal roominess of the fossæ, caused by extreme deviation of the septum to the other side. These cases can usually be promptly cured by correcting the deviation of the septum.

Michel and others have stated that many cases of atrophic rhinitis are caused by a suppurative inflammation of the accessory sinuses. It is true that these conditions may co-exist in rare instances, and it often happens that suppuration of these cavities is mistaken by careless and inexperienced observers for the ozæna of atrophic rhinitis. There is little evidence that either of these affections has any causative relation to the other.

It is generally agreed at present that syphilis, either congenital or acquired, has nothing to do with non-ulcerative atrophic rhinitis, while struma, with which Stoerk connected the disease, has no definite meaning in modern pathology. It is, probable, however, that atrophic rhinitis may be congenital, as it is occasionally, though very rarely, seen in an advanced stage in young infants.

There is no connection between tuberculosis, either localized or general, and atrophic rhinitis, and it is my impression that phthisical patients do not furnish their quota of ozænas. The suggestion was lately advanced by Spencer Watson[3] that atrophic rhinitis is the analogue on a mucous surface of lupus erythematosus on the skin. Another London authority (Mr. Woakes[4]) explains its etiology by supposing it to be due to some pathological state of the vaso-motor nerves. These are certainly curious and interesting theories, but belong almost entirely to the realm of speculation, having no clinical or pathological proof. It is still a hotly debated question as to whether atrophic rhinitis is a disease by itself, commencing *de novo*, or whether it is the later stage of hypertrophy. Bosworth[5] claims that in the early stages, *i.e.*, usually in childhood, these cases suffer from suppurative rhinitis. As time goes on the elements of the mucous membrane become altered in structure, and atrophy, both of the investing and the glandular epithelium occurs, crusts form, and their contraction, as they dry on the sur-

[1] Read before the Kings County Medical Association, May 12, 1891.
[2] Mackenzie: Diseases of the Throat and Nose, vol. i., p. 328. 1884.
[3] Gottstein: Ref. by Mackenzie, l. c.
[4] Voltolini: Die Krankheiten der Nase. 1890.

[1] Massei: Patologia e Terapia della Faringe, della Fosse Nasali e della Laringe, vol. i, 2d ed.
[2] Jurasz: Die Krankheiten der Oberen Lufturge. 1891.
[3] Spencer Watson: London Lancet, October 4, 1890, p. 713.
[4] Woakes: Post-Nasal Catarrh. 1884.
[5] Bosworth: Diseases of the Nose and Throat. 1890.

face of the turbinated bones, exerts pressure which causes the extreme atrophy. This is certainly a very attractive and simple theory, and if the premises are once granted it appeals strongly to reason.

In my experience, and in that of many others, chronic purulent rhinitis is a rare affection, both in adults and in children, unless dependent upon syphilis, a foreign body, suppuration of the accessory cavities, or upon a marked general enfeeblement of body due to the presence of some chronic malady, such as tuberculosis in some of its many forms. The only clinical indication which would point to that origin of the disease, which I can recall, is that occasionally, in well-developed cases of atrophic rhinitis, a history can be obtained that the nasal secretion at first was abundant and came away freely. I remember a few cases of chronic purulent rhinitis in the adult; whether they went on to atrophy I am unable to say. Nevertheless, it seems highly probable that atrophy should follow such cases, but their great rarity in children fails to account for the comparative frequency of ozæna in adolescence.

The contracting pressure of the dried crusts will hardly explain the atrophy, because there must have been great and important alterations in the mucous membrane which produced this abnormal viscidity of the mucus, which prevented its flowing from the nose. That atrophy causes the crusts, and the crusts cause the atrophy, is not entirely satisfactory to the inquiring mind. Contrary to Bosworth's remark, that the epithelial structures are apt to be involved in pathological changes in the mucous membranes in youth, it is universally admitted that these changes—benign as well as malignant epithelial growths—belong at least to mature adult life. The tonsils are lymphoid, not epithelial structures. The tendency to atrophic changes in all tissues of the body belongs to late adult life, not to adolescence. Hypertrophy is most frequent before middle life, but also, at least in the nasal mucous membrane, after adolescence. It certainly, therefore, seems to me that the facts do not fit in with Dr. Bosworth's theory.

It is the belief of, perhaps, the plurality of observers, that atrophic rhinitis is the latter stage of a pre-existing hypertrophy. While this is not an entirely satisfactory view, it seems to me to coincide better with clinical observation, and our knowledge of analogous pathological changes elsewhere, as in chronic inflammation of the internal organs. If it is true that atrophic rhinitis begins as such, the only analogy we have to it is the atrophy which follows nerve degeneration, a thought which may be of some comfort to Mr. Woakes.

Hypertrophic rhinitis, while not rare, is not a common affection in children. If we are to suppose that this, as well as other inflammations, simple catarrhal or suppurative, end in atrophy, we must acknowledge some unknown biological factor which makes that change very much more common about the time of puberty in the female.

In a few cases I have been able to notice this change from hypertrophy to atrophy. These two conditions may coexist in the same nostril, atrophy of the inferior and hypertrophy of the middle turbinated bone. The condition wrongly called by Woakes "necrosing ethmoiditis," is not infrequently observed in connection with atrophy of the inferior turbinated bone. A furrow traverses longitudinally the middle turbinated bone, dividing it into two halves. Pus is seen to exude from this furrow and from the ethmoid cells. There is, however, no carious bone. Occasionally advanced atrophy may be observed in one nostril, and marked hypertrophy in the other. I have yet to see a case in which one nostril is occluded by crusts and the other is secreting abundant fluid, muco-purulent matter.

It is impossible to deny that atrophy of the mucous membrane may begin *de novo* in rare cases. Almost everything is possible in pathological processes, at least our comprehension of the laws which govern them is too feeble to make us dogmatic about any of them. At present, rules and theories in medicine are for the slowly disappearing didactic lecturer, rather than for the clinical instructor.

A few years ago, when interested in nasal bacteriology, I was inclined to believe in the prophecy of Walb, which I quoted in a paper[1] before the American Medical Association, at Newport. "I am convinced," he says, "that the way opened by Löwenberg will lead to the discovery of the nature of ozæna. Whether the Löwenberg coccus, or some other, is the cause of ozæna is of no consequence; it must exist, and it is to be hoped that it will be found."

As explaining the cause of atrophic rhinitis, it is probable that this prophecy will remain unfulfilled; on the other hand, it seems to me exceedingly probable that sooner or later all will agree that the ozæna proper, *i.e.*, the characteristic odor of the secretions, is caused by the presence of micro-organisms.

There are many bacteria which, growing on ordinary culture media, give off a faint odor which is not unlike that of ozæna. I examined the secretions from three cases of marked ozæna accompanying atrophic rhinitis, by cultures on gelatine, agar-agar, and blood-serum plates, as well as in tubes of various culture media. All the routine precautions of bacterial technique against external contaminations were observed. In one case the only organism found on repeated examinations was the proteus vulgaris, its exuberant growth crowding out all others. In two cases were found, among other varieties, in sparse numbers, a short bacillus which corresponded closely with the one described by Hajek,[2] and called by him the "bacillus ozænæ fœtidus," except that it produced no local or general reaction when injected beneath the skin of rabbits. The odor of the artificial growths was identical with that of ozæna, and on blood-serum very pronounced. Klammann[3] and Thost,[4] and also Hajek, found Friedländer's capsuled pneumonia bacillus. Löwenberg's coccus was also said by the discoverer to emit an odor identical with that of ozæna.

Until, however, a micro-organism is constantly demonstrated in the superficial layers of the atrophied mucous membrane, and it is shown that inoculations produce the disease, we must be satisfied with believing that micro-organisms are responsible only for the characteristic odor of the altered secretions of atrophic rhinitis, in which they find a suitable medium for their growth. It is probable, from what has thus far been reported, that several microbes are capable of producing the odor when growing in the secretions.

The conclusions of Massei, from the experiments of Arena, that the odor is formed at the moment the secretion is passing through the mucous membrane, is not supported by sufficient experimental or clinical evidence to make it convincing. The same may be said of the surmise of Jurasz, that the odor is already present when the secretion comes out of the glands. The clinical argument against these assertions is that even the most offensive case, after having the secretions thoroughly removed and the nose perfectly cleansed, will for some hours be almost, if not entirely, freed from the odor. Transudation and secretion go on constantly, more rapidly probably in a clean nose than in one occluded by crusts. Hence the cleansing of the nose would be of little or no avail in relieving the patient, even temporarily, of the odor, if the suppositions quoted above were true.

It is probable that the symptoms of atrophic rhinitis are self-limiting, that after a longer or shorter time, extending always over years, these patients are relieved of their sufferings and terrible affliction. Otherwise we should see more cases after forty years of age than we do. It is not reasonable to suppose that regeneration of

[1] Nasal Bacteria in Health: New York Medical Journal, July 27, 1889.
[2] Hajek: Berlin. Klin. Woch., August 12, 1888. No. 33, p. 659.
[3] Klammann: Allg. Medical Central Zeit. No. 67, 1885.
[4] Thost: Deutsche Med. Woch., 1886.

the constituent parts of the mucous membrane takes place at an age when the tendency with other organs and tissues is toward atrophy and retrogression of function; but the question has often arisen in my mind, What becomes of these cases? If they don't get well they must die, for it is not a disease the symptoms of which can be disregarded. The number cured by any medicinal means must be very insignificant. The patient, after anosmia has become complete, may become reconciled to his own condition—not so with his friends, and he would inevitably be driven to the doctor's office; yet it is the great exception to see a case after thirty-five years of age. Possibly these cases may be cured by the suppression of secretion altogether from the complete atrophy of the mucous membrane, and, there being no more secretions to decompose, the odor and crusts both disappear. Clinical experience, however, induces me to regard this suggestion as very improbable.

Contrary to the generally received belief, this disease is fully as amenable to treatment as any chronic affection of any kind not curable by surgical means. It is almost universally good in patients under the age of thirty. From thirty to forty they may expect a fair amount of permanent relief. After forty-five treatment probably has no effect in hastening nature's cure, but great temporary relief may be given by the thorough cleansing of the nasal fossæ at regular intervals.

After such positive assertions as the above, it is necessary to qualify them by saying that I am convinced of their truth, provided the patient and his adviser do not expect miracles, and are willing to work faithfully, persistently, and intelligently for the desired result. It is impossible to understand how anyone with any knowledge of nature's laws obtainable in even the crudest medical education, should expect to arrest and turn back to a normal condition in a few weeks a process which has advanced slowly for years. One should never be led away by the glowing accounts of brilliant cures from a few applications of some lauded agent. One can always be sure that the explanation is a faulty observer, a mistaken diagnosis, or a vivid imagination. Neither clinical experience nor pathological knowledge should lead us to expect any such results, and they do not ensue upon any plan of treatment that does not extend over a long period of time. Observers whose names carry weight in the laryngological world make no such claims. When a cure is effected after many months, it is even then not a question of the restoration of the diseased tissue to its normal anatomical structure; it is simply a stimulation of the remaining glands, epithelium, and blood-vessels to do the work of their dead-and-gone congeners. It is a symptomatic cure, and not an anatomical one. Someone has said that a mucous membrane once inflamed, however slightly, never returns to its normal condition. The hyperbole of this statement makes it a little ridiculous without the definition of what constitutes a normal mucous membrane, but when atrophy has once occurred the declaration is literally true. This, however, is a part of the subject which does not particularly interest the patient. For him the disease is made up of his terrible symptoms, and the abolition of these will entirely satisfy him. As to the length of time it will take to do this, that is always a matter of many months, but will depend largely upon the length of time the affection has existed, upon the extent of the pathological changes in the mucous membrane, and upon the general health, age, and natural recuperative power of the patient. This last factor is always an unknown, but a very important one, which can be ascertained only after treatment has commenced. The instances of quick cure of the symptoms of atrophic rhinitis referred to above, where not existing in the imaginations only of those reporting them, are those cases where advanced atrophy is not present, where the majority of the secreting glands still preserve enough vitality to resume work promptly when once their mouths are freed from the obstruction of crusts.

The first thing to be done in starting to treat a case of advanced atrophic rhinitis is to give the patient thoroughly to understand what she is to expect. She must be told that the treatment must extend over a period varying from six months to a year, possibly a year and a half. From four to eight months, it will be necessary that she should come regularly to her physician every other day; after that once a week. She must cleanse her nose in the intervals at home as thoroughly as possible, several times a day. Unless she will consent to be thus faithful and persistent, it is better that she should not begin treatment at all, as the result will be a disappointment to the patient and a loss of prestige to the physician. She should be assured that if this plan is adhered to she will in a few weeks be greatly relieved of her sufferings, and after six months will have attained some permanent benefit; while in a year's time her nose will be in such a condition that by moderate daily cleansing she can remain practically cured of her ills. Of course these figures in regard to time are not meant to be absolute, but will vary either way with each case. Unless there is perfect confidence established and a thorough understanding of the difficulties of the case impressed on the patients, it is useless to attempt to treat them. With such relations, however, I know of no affection of the nose or throat in which more satisfactory results can be obtained, and more gratitude elicited from the patients by treatment. Their troubles are real, both of body and mind. Their afflictions are visited both on themselves and their associates.

It is said that "cleanliness is next to godliness," but in the treatment of atrophic rhinitis with ozæna, cleanliness takes the lead. No treatment will be successful without the frequent and regular cleansing of the nasal fossæ. By this I mean not only the removal of the crusts, but the careful washing out of all traces of muco-purulent matter. It is needless, and would be superfluous here, to go into the methods of accomplishing this. Suffice it to say, however, that the crusts should always be removed by the gentle use of a probe protected by absorbent cotton, before any fluid application is made to the nose. Oily substances especially, but also watery solutions, make the crusts more tenacious and difficult of removal. Sprays of peroxide of hydrogen transform the inside of the nose into a mass of frothy, semi-gelatinous matter which clings to the mucous membrane with the tenacity and persistence of fresh glue. Every procedure must be attended with the greatest care, so as not to cause the patient unnecessary pain, if she is expected to return to you with the necessary regularity and persistence. After the crusts are removed the semi-viscid secretion can best be washed out by the use of the post-nasal syringe and the compressed air apparatus, using some weak alkaline antiseptic wash as Dobell's solution, or Seiler's dissolved tablets, or Leffert's formula.

Those cases in which the atrophy and crusts are principally found in the deeper parts of the nasal chambers, while some hypertrophy, or a less degree of atrophy, exists anteriorly, are particularly hard to cleanse properly, and the comparative anterior obstruction increases the disposition to the retention of the secretions when they form again after the cleansing. These cases are not infrequently met with.

The nasal fossa once thoroughly cleansed, we must now select some method of stimulation to the mucous membrane. The operator's mind must be disabused of any impression that there is any such thing as a specific agent for this purpose. Stimulation here means irritation. This must gradually be increased in strength until the limit of tolerance of the patient is reached, for after a time she will be able to bear with comfort degrees of local irritation which it would have been impossible to use at first. The forms of irritation are three: mechanical, electrical, and medicinal or chemical.

Mechanical: Gottstein's tampons, massage.

Electrical: 1. Galvanism. 2. Galvano-cautery at a dull red heat.

The multitude of drugs used for this purpose is not exhausted by the following list: thymol, menthol, aristol, iodol, salol, ichthyol, eucalyptol, carbolic acid, boric acid, salicylic acid, tar water, resorcin, iodoform, red gum, sanguinaria powder, galanga powder, nitrate of silver in powder and solution, bichloride of mercury, capsicum, sulphurated waters, iodine and its compounds.

All these substances have been urged as of great efficiency in the treatment of atrophic rhinitis. In order to obtain good results, however, the cleansing must be thorough, frequent, and regular. This done, good results may be obtained with anything as a subsequent application. The powders used as such, which are insoluble in the nasal secretions, act beneficially probably only by the mechanical irritation they may cause. Those antiseptics are best which irritate and which do not coagulate the secretions. Those which have toxic power it is necessary, of course, to use with great caution. My personal experience extends to a thorough trial of galvanic electricity, Gottstein's tampons, thymol, menthol, aristol.

Of the others I know nothing except from the statement of those who, enthusiastically or otherwise, describe them. Galvanism, proposed by Shurley [1] and used by Delavan [2] and Hartmann,[3] I used for three months on all cases of atrophic rhinitis. It did fairly well, but was difficult to apply, required a battery, which is always the operator's bête noire—a thing full of caprices and vexatious surprises—and often caused, even with the most careful manipulation, some pain.

Gottstein's tampons of antiseptic absorbent cotton also stimulate the watery secretion of the nose, but are apt to cause headaches, prevent the patient from blowing the nose, are apt to drop into the throat, and if left in for more than a few hours are dirty and disagreeable. Nevertheless, in some cases they are efficacious. Menthol has a tendency to cause contraction of the blood-vessels at first, and thus prevents transudation. Aristol in powder I used in all cases for two months; I believe it to be entirely inert except for some slight mechanical irritation. It is insoluble, and the practical results from its use coincide with what we should theoretically expect. I have had no experience with it in oily solutions.

Thymol I have used for four years without interruption, except to test one of the above remedies, which in each case was abandoned. The advantages thymol possesses are: it is a good antiseptic; it has a pleasant odor; it is sufficiently soluble for sprays and douches; it stimulates the mucous membrane and causes a profuse watery secretion; it is not poisonous and has no constitutional effect; it has no vascular constringing power.

Almost as much can be said of some of the other drugs, and I do not assert that it has any great advantage over them. It is simply a matter of personal preference. I use the formulæ recommended by Seiss:

No. 1.

℞. Thymol ..... gr. jss.
Alcohol,
Glycerine ..... āā ʒ jss.
Aquæ dest. ..... ad ℥ j.

Or

No. 2.

℞. Thymol ..... gr. ss.
Alcohol,
Glycerine ..... āā ʒ ss.
Aquæ dest ..... ad ℥ j.

It is convenient to make use of the stronger formula, and to dilute it at first and gradually increase it again to full strength. A fine spray with a pressure of twenty pounds is the best method of applying it. Occasionally even the weak strength causes pain at first. A solution of thymol, gr. jss. to albolene, ℥ j., may then be used with advantage. Much stronger solutions can be used with the oils than with water, but they stimulate much less, and the best results are attained by the latter.

This process of cleansing the nasal fossæ and the stimulation of the mucous membrane, must be repeated every other day for many months, and then, as it is found that the patient is able to keep it clean in the intervals at home, those intervals may be lengthened gradually to twice or once a week, and once in two weeks.

It is necessary that the patient should use a cleansing solution at home. Seiler's tablets or the Dobell solution may be used by means of syringe, spray, or douche-cup. The latter is the best. An ordinary feeding-cup such as is used for bed-ridden invalids, with a long, slender spout, may be used to flood the nose several times daily, using large quantities of the fluid each time, and blowing the nose forcibly in order to dislodge all the secretion possible. A few puffs from one of the many vaporizers of albolene with thymol may then be used in each nostril to obtain gentle stimulation.

The danger of middle ear trouble, in these cases, from syringing or spraying is practically nil, because the fossæ are usually so roomy that there is no obstruction to the return flow, and the inflow depending entirely upon gravity, no pressure can be exerted upon the mouths of the Eustachian tubes. I have never seen a case of ear trouble in atrophic rhinitis resulting from nasal douching. Indeed, contrary to the statements of Beverly Robinson,[4] I have rarely seen aural complications from any cause in cases of atrophic rhinitis, though I have not examined for slight defects of hearing, which might easily be overlooked.

In many cases it will be noticed that there are constant places on the nasal mucous membrane where secretions are especially apt to lodge and cling. These areas may be large or small. The application of a solution of nitrate of silver, 3 j. to ʒ j., on cotton, may be made from time to time to these places. A few applications will frequently prevent the further obstinate clinging of the secretions at this spot.

The first thorough cleansing of the nose will be more difficult and painful than any subsequent one if the patient return at frequent and regular intervals. After a month or six weeks it will usually be noticed that the dried secretions are less abundant and cling less tenaciously. The patient will also say that the discharge from the nose has greatly increased. This is because the secretion is becoming more fluid and is consequently expelled before it dries. There will be periods over several weeks when the disease seems practically unchanged for the better, but this is sure to be followed by another period of great improvement. Gradually it will be seen that the nose has fewer and fewer crusts in it, the odor becomes gradually less and less strong, and the intervals during which it is absent altogether become longer and longer. The headaches disappear, and in some cases these signs of local improvement are accompanied by a corresponding improvement in the general health.

When the patient is able to go for a week or ten days without help in cleansing her nose, and without a return of the odor or other symptoms, we may conclude that some permanent benefit has been attained. The case should not be dismissed, however, until the mucous membrane is seen to be constantly moist, pink, and free from dried secretions.

When the general health is poor, tonics, exercise in the open air, a full diet, careful attention to digestion and the condition of the bowels is always demanded. Indeed, even in those cases where the general health seems perfect, fresh air and plenty of it, with more or less vigorous exercise, must be insisted on where they are possibilities. These patients, even in moderately good health, often do better locally when taking cod-liver oil or cream.

[1] Shurley: Trans. American Laryng. Association, vol. ii., 1880, p. 20.
[2] Delavan: Idem, vol. ix., 1887, p. 145.
[3] J. H. Hartman: Idem, vol. x., 1888, p. 84.
[4] Beverly Robinson: Idem, vol. v., 1883, p. 140.

THE ARACHNOID OF THE BRAIN.[1]

1. Its General Homology with the Serous Membranes of the Other Great Cavities. 2. The Communications of Its Cavity with the Subarachnoid Space.

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Modern works on human anatomy do not give, as a rule, an account of the cerebro-spinal arachnoid, which is, in the opinion of the writer, in harmony with its structure, topography, and relations as shown by dissection.

Some of the different views which have existed respecting the subject, as well as the present consensus of opinion of our commonly accepted authorities, are exhibited in the following historical notes:

According to Bichat,[2] "in the middle of the seventeenth century it began to be suspected that" . . . the arachnoid and pia . . . "might possess a separate existence." "The Anatomical Society of Amsterdam assured themselves of the fact in 1665; Van Horne soon after demonstrated the arachnoides separately to his pupils."

Bichat himself[3] describes the arachnoid as a serous shut sac, conforming in all essential particulars with the serous membranes of the other cavities. This was apparently the generally accepted view up to the time of Kölliker, who wrote:[4] "It is generally stated that the inner surface of the dura mater is covered by an outer layer of the arachnoid; but nothing is found here excepting an epithelia composed of polygonal cells, and there is not a trace of a special membrane."

The same writer (page 238), speaking of the spinal membranes, says: "The inner surface of the dura mater is covered with a multiple layer of pavement epithelium cells, but has no other investment which could be regarded as a parietal lamina of the arachnoid." Again, Frey[5] says: "The arachnoid, which has also been numbered among these (the serous membranes), has no parietal layer." And, "The second membrane, the arachnoidea, was formerly described as forming a shut serous sac, but erroneously so; the parietal leaf being usually represented as fused together with the outer layer of the dura mater, since it could not be demonstrated separately."[6]

Without multiplying references unnecessarily, it is sufficient to state further that in the various editions of Gray's "Anatomy," previous to 1870, the arachnoid is described as a shut sac. Darling and Ranney, 1882, also teach this view; while Gray (after 1870), Holden, fifth edition, 1885, Leidy, 1889; Weisse, 1886, and other leading works in common use as text-books, speak of it as consisting of one layer only—the "visceral" layer.

It has occurred to the writer that this question of one or two layers was one which it was desirable to have settled, and if possible by macroscopic rather than microscopic evidence. With this object in view a series of dissections were made as follows:

First dissection: Fœtus at term, stillborn.—The scalp being removed, a section of skull was made in the parietal region, removing the bone only. The following features were then easily demonstrated in successive order: 1. Periosteal layer of dura, traceable to its continuity with the sutural "ligament." 2. The dura proper (subserous connective tissue), forming the walls of sinuses and carrying the nutrient vessels for, 3, The parietal layer of arachnoid, a thin pellicle separable with the handle of scalpel. 4. Space between parietal and visceral layers of arachnoid, or the arachnoid cavity proper. 5. Visceral layer of arachnoid passing over sulci, etc. 6. Subarachnoid space. 7. The pia mater. 8. The convolutions.

Second dissection: Fœtus at term.—This was practically a repetition of the first, except as to region, the frontal bone being removed instead of the parietal.

Third dissection: Adult, negro, aged about thirty-five, brain and membranes normal.—The dura covering vertex and forming falx cerebri and tentorium was found to be inseparably united with the parietal arachnoid; at the base of the skull, however, and especially in the region of the sella turcica and orbital plates, the two membranes are quite freely separable with an ordinary scalpel, and the arachnoid could be stripped off in places. This separation also was more marked at the points of exit of the larger cranial nerves—*e.g.*, the optic. The following diagram (*A*) will show at a glance these points in the parietal region of the new born infant—the only change in adult life being fusion of the vertical parietal arachnoid with the subserous dura, a condition in every way similar to the conditions which exist in the pericardium. At the base of the skull, however, the separation is readily appreciable in the adult, as already stated.

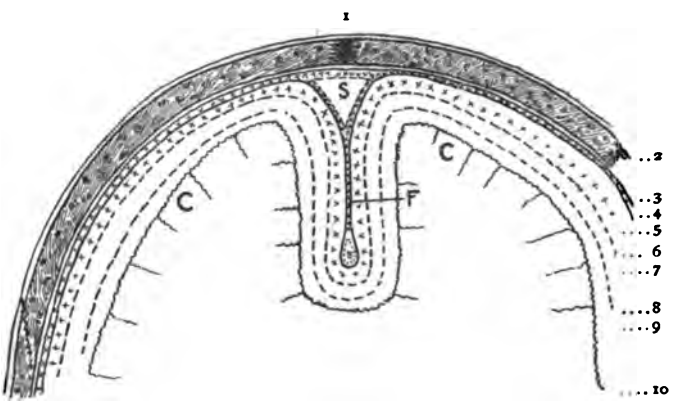

Diagram A. Vertical Transverse Section of Parietal Region to Show the Various Membranes and their Layers.—1, Sutural "ligament," continuous with external periosteum and periosteal layer of dura; 2, parietal bone; 3, periosteal layer of dura; 4, inner layer of dura, forming sinuses; 5, subserous connective tissue, between dura and parietal arachnoid; 6, parietal arachnoid; 7, arachnoid cavity; 8, visceral arachnoid; 9, subarachnoid space; 10, pia mater; S, superior longitudinal sinus; s, inferior longitudinal sinus; F, falx; C, convolutions.

Considering the nature of the sinuses—as simply dilated veins—and the fact that the inner dura is the necessary medium for vascular supply of the parietal arachnoid, it would seem in every point of view proper to consider the inner dura as homologous with the subserous connective tissues elsewhere.

The writer regrets that material and time have not permitted these observations to be carried to their logical conclusion, by actual sections of cranial nerve exits, to show the arachnoid reflections.

2. **The Communications between the Arachnoid Cavity and the Subarachnoid Space by Way of the "Lunulate Foramina."**—During the progress of the last dissection it was evident that there were two points at the base of the cranium where the arachnoid was deficient over a considerable area on either side of the medulla oblongata. These deficiencies present the form of bilateral foramina—one on each side—and are situated in the "bridge" of visceral arachnoid which stretches across from the cerebellar lobes to the under surface of the medulla. These foramina measure about half an inch in longitudinal diameter by one-fourth inch transversely, and are crossed by three or four fibrous bands, the attachment of which to the edges of the openings produces a mutiple crescentic appearance of their margins, which suggests the name adopted above. (See Diagram B.)

[1] Read before the Association of American Anatomists at the Annual Meeting, Boston, December 29, 1890.

[2] A Treatise on the Membranes in General, and on Different Membranes in Particular, by Xavier Bichat, etc. Paris, 1802. Translated by John G. Coffin, M.D. Boston, 1813, p. 163.

[3] Op. cit.

[4] Manual of Human Microscopic Anatomy, p. 237–238. London, 1860.

[5] Histology and Histo-chemistry of Man, p. 227. Appleton, 1875.

[6] Op. cit., p. 599.

As the body had been subjected to but little handling before the autopsy, and the brain was removed with special care, it does not seem likely that these openings were produced accidentally; the finished appearance of their edges and close correspondence with each other in all respects would also negative this supposition.

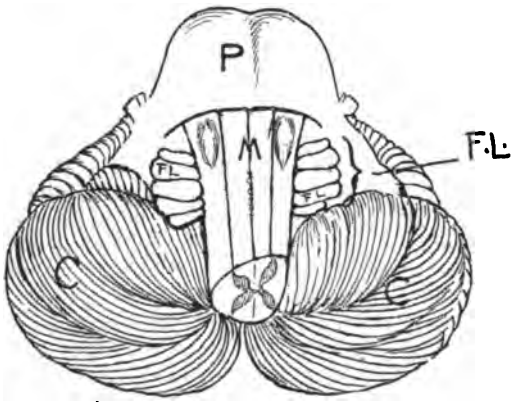

DIAGRAM B.—Lower or anterior surface of pons (P), medulla (M), and cerebellum (C), supposed to be covered by the visceral arachnoid, in which are seen the lunulate foramina (F.L.) in outline. NOTE.—The artist has failed to represent the membrane, but the outlines of the foramina are correctly placed.

It is evident that, if constant, they form a large and direct communication between the arachnoid cavity and the subarachnoid space and ventricles, just opposite the "foramen of Magendie"—by which the subarachnoid space is stated by most anatomists to communicate with the internal cavities.

Hence, it would seem reasonable to suppose that the cerebro-spinal fluid may have its origin, in large part at least, in the walls of the arachnoid cavity proper, reaching its final destination through the lunulate foramina to the subarachnoid space, thence *via* the "foramen of Magendie" to the ventricles.

Further observations on these points are therefore desirable.

For assistance and courtesies extended in connection with these dissections and observations, acknowledgments are due Dr. F. Kebler, pathologist, and Dr. George B. Twitchell, house-physician to the Cincinnati Hospital; also to Messrs. E. S. Newlin and J. G. Williams, students at Miami College.

To summarize these observations I would conclude:

1. The arachnoid membrane is a true shut sac, similar in structure and function to the serous membranes of the other great cavities. Its parietal layer is easily separable from the dura at the vertex in the fœtus and young infant, but practically inseparable in this region in the adult. At the base of the skull it is demonstrable as a separate membrane even in the adult. To assert that the parietal layer of arachnoid is absent, because its subepithelial connective tissue has fused at the vertex with the dura (connective tissue), is as incorrect as to describe the great omentum as one layer of peritoneum, because its original four layers have become matted and adherent.

2. The arachnoid cavity communicates freely with the subarachnoid space, by means of two foramina situated in the visceral arachnoid, one on either side of the medulla. For these I would propose the name "lunulate foramina," from their crescentic or lunulated edges, produced by the attachments of fibrous bands which cross the openings transversely. Subsequent observations, in two instances, confirm the presence of the "lunulate foramina." In one of these, the basilar process of the occipital and the sphenoid body were cut away from the base and the dura removed, so as to show the foramina *in situ*; thus excluding the possibility of their artificial production during the extraction of the brain.

CINCINNATI, December 16, 1890.

Typhus Fever and Cholera are prevalent to an unusual degree this year in Mecca.

THE PATHOLOGY OF THE CAISSON DISEASE.*

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(Concluded from page 150.)

III. THE THEORY OF CONGESTION WITH SEQUELÆ.—The theory of congestion was the first to be enunciated, and had as its basis anatomical facts, which were proved by the autopsies. The various modifications of it will be taken in order.

a. The Theory of Congestion and "Black Blood."—The upholders of this theory are Pol and Watelle,[86] Guerard,[49] and Limousin.[70] To Pol must be given the credit of showing that the danger of accident lay, not in the increased pressure, but in its too rapid diminution. His theory is, that the effects are produced by congestions of the brain and viscera and by "black blood." They base their theory on the result of two autopsies; in neither, however, was the spinal cord opened. In both, they found congestions of the brain, lungs, and the solid abdominal organs. These congestions they stated to be the immediate sequence of the compressed air forcing the blood mechanically from the compressible peripheral tissues into the deep-lying, practically incompressible organs. This central influx of blood gives rise to visceral congestions, which during the period of compression are innocuous; because, by reason of the increased pressure, the blood absorbs and holds in solution more than its normal quantity of oxygen. Therefore, although the blood-current in the affected organs is slower than normal, yet, on account of its superoxygenation it is able to give the tissues all the nourishment they need. Now, at the moment of removal of pressure what happens? They say that Rasori, Andral, and Dubois d'Amiens have shown that it is the stupefying action of the "black blood" that becomes pernicious, and that the period of removal of pressure is precisely that in which the blood loses its oxygen. Therefore, this "black blood," *i.e.*, the blood deprived of its oxygen, and the congestions which have not had time to disappear, manifest themselves in producing the divers accidents observed among the workmen.

Bauer[3] has a similar theory, except that he does not recognize the congestions.

The amount of oxygen absorbed by the blood during the compression is really very small, as has been proved by Bert, Chabaud,[17] and others. The following table will show this:

Atmospheres.	Oxygen.	Nitrogen.	Carbonic Acid.
1	20.0	2.2	40.0
2	20.9	3.0	40.7
3	21.6	3.9	37.2
5	22.7	6.0	35.7
7	23.0	7 0	35.5
10	23.4	9.4	36.6

This table shows that oxygen increases very slowly, carbonic acid decreases very slowly, and that nitrogen is the only gas that increases very much in the blood during the increased pressure. When we consider that man is rarely subjected to a pressure of more than four atmospheres, we see by the table that the change in amount of the gases dissolved in the blood at this pressure is really trifling, and not able to account for the lesions observed. Besides, the poisoning from the effete matters in the blood would be too slow in its action to cause the very prompt effects that are so often seen, and would be more apt to affect the cerebrum first, causing headache and drowsiness, than to attack the cord.

b. The Theory of Congestion followed by Evolution of Gas.—Boucquoi[11] advanced this theory. He says that the visceral congestions, under pressure, have different reactions for solids and fluids. The former are less and less compressed according to their depth; but that the

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blood is under equal pressure everywhere. Hence the deep organs enclose a blood that is submitted to the same pressure as the peripheral blood, while these organs react less than those of the periphery; therefore they offer more than these external tissues, and this difference causes the visceral congestions and hemorrhages. The pain he says results from the distention of the tissues by gas when the pressure is removed. The hemorrhages and emphysema, often claimed to be observed, are explained by a return to their normal state of gases dissolved in the blood. On their rapid conversion from a state of solution to the free state, they increased in volume sufficiently rapidly to burst the small capillaries and produce the hemorrhages. The gas in the vessels prevents the proper circulation of the blood; this in turn produces increased work for the heart, and the result is palpitation and dyspnœa, similar to that produced by injection of air in the veins. When death occurs it is due to emboli of gas in the lungs. This is a much more plausible theory than that of the formation of gas alone, as the blood current in the congested organs, coursing slowly as it does, would require much greater effort in passing the gas emboli than where no such congestion existed. As we have discussed each of these theories separately, a consideration of them combined is not necessary.

c. The Theory of Congestion followed by Hemorrhage.—Babington and Cuthbert,[1] in 1863, and Pol,[40] in 1872, and Febvre,[36] in 1879, thought that the reason that there was a predilection for pathological effects in the brain and cord, enclosed as they are in osseous cavities and having their vessels protected from atmospheric pressure, was, that they are not able to accommodate themselves as easily or rapidly to increased pressure as organs more elastic. The blood-vessels enclosed in the bony walls, not being able to expand, and unable to carry off the increased flow of blood under increased pressure, force the blood to dam back more and more, and to press on the delicate nervous structures. Thus, by the mechanical pressure, or by the rupture of the thin-walled vessels, the various symptoms are produced.

This theory is not borne out by actual facts. Hemorrhage as the result of rupture from extreme congestion is frequently met with in the kidneys, and occasionally on the dura mater of the cord. But where this lesion has occurred it has never been large enough, simply by its pressure on the cord, to cause paralysis.

d. The Theory of Congestion followed by Acute Revulsive Anæmia.—This theory has been advocated by Moxon, Gowers, and Twynam.

Moxon,[79] in 1881, took an entirely different view from anyone up to that time. His theory is, that it is due to an acute revulsive anæmia. He has proved that "the human brain is capable of withstanding enormous pressure without danger, provided that asphyxia or strangulation be not present. The real danger to the nervous system depends on the pressure being too rapidly removed." Further, he shows how paraplegia is dependent on the poor blood-supply of the spinal cord, especially the cauda equina, in consequence of the great length and small calibre of the spinal arteries.

"The blood-supply is carried on by three slender vessels coming from the vertebral arteries, and these are reinforced by small branches which pass to the cord along the nerve-roots. These branches are for the most part short, nearly transverse in direction in the cervical and dorsal regions, oblique in the lumbar and sacral. Furthermore, it is to be noted that the spinal cord does not pass beyond the lower body of the first lumbar vertebra, while the spinal canal enclosing the leash of nerves which form the cauda equina extends to the end of the sacrum. Along the obliquely directed sacral nerves pass upward those delicate branches of the lower lumbar and sacral arteries which reinforce the terminal portion of the spinal arteries proper. The lumbar enlargement of the cord receives therefore its supply of blood under conditions of blood-pressure which a slight weakening of the *vis a tergo* must reduce to a minimum. This is shown by the fact that the anterior spinal artery is rarely found injected to its termination—usually, I believe, to only within a couple of inches of the filum terminale—while the vessel is found empty on the filum itself. When the pressure is rapidly removed there is a great rush of blood into the tissues of the surface of the body. The spinal cord then being very poorly supplied with blood, is in a state of marked anæmia; and I may remind you that anæmia in other cases is an early stage of white softening as met with in ordinary paraplegia."

Gowers,[46] in 1886, agrees with Moxon in that the lesion is due to a revulsive anæmia. He says, "The pressure drives the blood from the surface, and probably lessens the amount in all vessels to which its influence extends. On the removal of the increased pressure the conditions may be reversed, perhaps in a degree proportioned to the duration of the pressure. Hence the paralysis is due perhaps to an acute revulsive anæmia of the cord, analogous to that which sometimes follows loss of blood. The dorsal cord, to judge by inflammation, is more prone to suffer acute disturbance of nutrition than any other part of the central nervous system."

Twynam,[113] in 1888, thought that anæmia of the cord was the primary cause, but accounts for it in a different way. He thinks that during the period of increased pressure the brain becomes congested and presses out the cerebro-spinal fluid from the cavity of the cranium into that of the spinal canal. As the cavity of the arachnoid is larger below than above, possibly the anæmia of the lower cord may be produced by pressure of this fluid, when we consider the hydrostatic relation of the long column of fluid pressing the blood out of the tissues of the cord, with the increased pressure in the brain, representing the power, and the lower end of the cord the part to be compressed; lying as it does in that part of the cylinder where the diameter is large, and therefore the pressure is greater, an anæmic condition is produced, and the longer this is continued the worse for the workmen.

This theory is an ingenious one and might account for all the microscopic lesions of the cord. But if the real lesion was due to a revulsive anæmia, we should find the cord anæmic at the autopsy. As a matter of fact we have found, as is shown in the summary of the autopsies (page 146), that the cords of persons dying suddenly from the caisson disease are almost invariably congested.

e. The Theory of Congestion followed by Comparative Stasis.—Of all the theories hitherto advanced, this one seems to be the most scientific and the most trustworthy, based as it is on the results of the autopsies, and supported by anatomical facts.

Smith[103, 104] and Nixon[81] advocated this theory. After speaking of the congestion of the deep organs during the increased pressure, Smith says, "If, now, the external pressure is suddenly removed, what will be the result? Vessels which have been compressed and almost emptied of blood will now offer new channels through which the blood can rush; and vessels overcrowded with blood, with their walls paralyzed by over distention, will have the current within them slowed almost, or quite, to the point of stopping. The vessels of the brain and spinal cord, being within bony walls, where the direct pressure of the condensed air could not affect them, will be found the most distended and the most helpless to relieve themselves. They will get little aid from the *vis a tergo* of the circulation, for the blood will find easier courses by other ways, vascular tension being almost nil, and the vaso-motor system out of repair."

Nixon, in 1889, also considers the lesion to be due to deficient blood-supply; he says, "The blood-pressure in the cerebral and spinal vessels is suddenly lowered at a time when the vaso-motor system is out of order, so that although the vessels are full of blood, the circulation becomes slowed and areas of stasis may be formed which,

affecting the nerve-elements, give rise to symptoms of nervous disturbances, such as pain, paralysis, and vertigo." He then quotes Professor Birmingham, who mentions a very curious point in reference to the length of the reinforcing sacral arteries — that corresponding to the third or fourth sacral nerve was eight inches in length, of very small calibre, and injected at its lower part from the lateral sacral artery for a very short distance; while the part in immediate connection with the anterior spinal artery was also injected, but the intervening part of the vessel was found empty.

"Thus it is seen that the end of the spinal cord, corresponding to the innervation of the lower limbs and sphincters, receives a supply of blood under conditions which circumstances may render precarious, for any sudden diminution of blood-pressure may lead to such a reduction of blood-supply as to produce profound functional disturbance. This may be aggravated by any sudden increase in the passage of the cerebro-spinal fluid within the theca spinalis. What probably helps to avert disturbance of nutrition depending upon defective blood-supply in this situation, is the larger number of reinforcing arteries at the lower segment of the cord than elsewhere. I believe that the peculiarities of the circulation just described account for the paraplegia developed in divers being usually of a transient nature; and I believe in cases of chronic nature, the sudden disturbance in the circulation leads to such nutritive changes in the cord that a myelitis was set up in that part of it which is, *par excellence*, the seat of inflammatory change—viz., the dorsal segment."

As its fundamental basis, this theory recognizes the congestions found at autopsies. The idea that the circulation becomes very slow and is insufficient to nourish the lower part of the cord is strengthened by the anatomical arrangement of the blood-vessels in that part of the cord, as has been pointed out by Moxon and Birmingham. That sudden cessation of circulation will set up an almost instantaneous paralysis, and an extremely acute inflammation of the cord, has long been known. Herter's " experiments in this direction are very interesting. He employed the method of Stenson modified by DuBois-Raymond. "This consists in passing a curved needle through the abdominal wall on one side of the vertebral column and bringing it out on the other, in such a manner as to include, among other structures, the abdominal aorta and vena cava. The needle carried a strong ligature, which is tied so tightly over the back of the animal as to effectually compress the abdominal vessels. The effect of this proceeding is to produce an almost instantaneous paraplegia. If the compression be exercised for a shorter time than three-quarters of an hour, the paralysis wears off rapidly. If, however, effectual compression be continued during a period greater than one hour, the paraplegia becomes a permanent condition. In the great majority of instances the onset of the paralysis is so closely connected in time with the tightening of the ligature that it may be considered coincident with it. In some cases, however, several seconds pass before the paralysis is evident, and occasionally the time is several minutes."

In the case of workmen coming out of the caisson the blood-current is slowed or stopped for two reasons: First, by the long continuance in the caisson, from one to four hours, the vessels in the deep-seated organs by continued over-distention become paralyzed, and are unable by loss of their tonic elasticity to help propel the blood that is already in them. Second, pressure being removed, the current of blood rushes into peripheral organs and occupies vessels partially emptied by the previous pressure, where the resistance is slight. The *vis a tergo* then being removed or greatly diminished, and the vessels themselves being incapable of emptying themselves promptly, the current is so slowed or absent that small thrombi may be formed in various minute vessels. Whether thrombi are formed or not, the nutrition of the cord suffers sufficiently to produce a rapid or slow, complete or temporary paralysis, or pain only, depending on the extent of the congestion and subsequent stagnation of the blood-current.

There are a few other clinical facts supporting the theory of congestion, as opposed to the gaseous theory, to which attention should be called.

1. *Increase of Urine.*—As early as 1820 Hamel mentioned the marked increase in the amount of urine voided by the workmen under compressed air; since then most writers have referred to it, it having been especially studied by Jaminet.

There is nothing in the gaseous theory to account for this clinical fact. Reasoning from the congestion theory, it would be expected, because, first, there is an increased amount of blood under increased pressure flowing through the kidneys during the compression; secondly, the skin being to a great extent deprived of its blood-supply, ceases to act, and thus compels the kidneys to do the work for which the skin is at present incapacitated.

2. *Alcoholism and Debility.*—Persons with marked alcoholic habit, or whose system is below par, from any cause, are found to be the ones most liable to be attacked. In the gaseous theory, which is a mechanical one, the gas would as effectually block the vessels of a strong man as of one whose vessels and vaso-motor system were deranged by excess or sickness. While on the congestion theory, any inherent cause tending to reduce the tonic elasticity of the vessels would predispose to the gravity of the congestion.

3. *Obesity.*—Fat men are known to be more severely attacked than those of a spare habit. Again, in the gaseous theory this would make no difference, as the same amount of blood circulates in the vessels of the cord, be the person fat or lean. On the congestion theory this is an important factor. Though normally the amount of blood in the cord of the stout and thin is the same, yet the total quantity of blood in the obese is much more than in the spare, and when atmospheric pressure is applied, more blood is driven from the periphery into the deep organs, and so the danger of accidents is greater in the case of the fat man.

4. *Repeated Exposure Protects.*—Long continuance of work, with gradually increasing pressures, protects.

Clinical experience teaches that persons working for the first time are the ones most exposed to attack. This is again opposed to a strictly mechanical theory; while it is evident that under slow progressive pressure the vessels of the deep organs can gradually become strengthened and accustomed to the changes of pressure, as is seen also among birds and amphibious animals.

5. *Duration under Pressure.*—The greater the length of time under pressure the greater the danger. According to Dalton's law, as soon as the blood becomes saturated it cannot absorb any more gas under that pressure, so that after the first few minutes' sojourn at the maximum pressure, the blood becomes saturated and is incapable of further absorption. Therefore, under the gaseous theory, the length of time that a person remains in the caisson after saturation of blood is immaterial. With the theory of congestion the contrary is true. The longer the vessels are distended with blood the more their walls become weakened, and the less able they are to resist the pressure, and the less able to empty themselves; hence the greater danger of paralysis of their walls, or rupture producing hemorrhage.

6. *Cold and Moisture.*—Jaminet and others have shown that during the removal of pressure the temperature of the air-lock falls with great rapidity—as much as seventeen degrees in four minutes—so that, by the time that the pressure is removed, the moist atmosphere in the air-lock is nearly at the point of freezing. This sudden change of temperature must have a very deleterious effect on the workmen, who are tired, hungry, and covered with cold sweat; and must markedly weaken the vaso-motor system and tend to repress reaction.

Conclusions.—From the mass of evidence compared and studied, it seems evident that the pathology of the caisson disease is due to congestion and consequent malnutrition of all the internal organs, and especially of the spinal cord. This congestion is due in part to paralysis of the vessel walls from previous over distention, and in part to the lack of *vis a tergo* of the blood-current, because the blood finds easier passage through the peripheral vessels, which have been partially emptied by the previous pressure. This comparative stasis of the blood causes a malnutrition of the tissues, which is manifested especially in the organ invariably found congested, the spinal cord.

The exciting causes are: Long-continued pressure, great amount of pressure, rapid removal of pressure, exhaustion and cold during the removal of pressure, and, possibly, evolution of gas if the withdrawal of the pressure is very sudden, *i.e.*, one-half to one minute.

The predisposing causes are: Obesity, old age, alcoholic excesses. heart and kidney disease, lowered vitality of the body from any cause.

The pathological lesion of the cord, in most cases of paraplegia, is a disseminated myelitis, involving the nerve-fibres, neuroglia, and blood-vessels of the white matter, especially of the posterior and adjacent parts of the lateral columns, and producing ascending degeneration of the columns of Goll and the direct cerebellar tract, and descending degeneration of the crossed pyramidal tract, and leaving the gray matter unharmed.

It has its seat in the dorsal region of the cord, because this portion is physiologically and anatomically the least resistant part of the nervous system, and attacks principally the postero-lateral columns, on account of some anatomical arrangement of the smaller blood-vessels not thoroughly understood.

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Progress of Medical Science.

The Action of Cocaine on the Circulation.—Dr. Edward T. Reichert, from a careful study of the actions of cocaine on the circulation in animals, deduced the following conclusions: 1. The discrepancies in the testimony offered by different experimenters, in their investigations of the action of cocaine on the circulation, are almost wholly due to variations in the absolute doses employed, and to the individual susceptibility of the animals. 2. The minimal fatal dose, when injected intravenously in divided doses in the form of a one per cent. solution, varies from 0.004 to 0.03 gramme to the kilo of the body weight. Owing to the great differences in the sensitiveness of different dogs to the poison, a moderate dose in one animal might prove a small or a large one in another of similar weight. 3. When the full train of effects on the heart-beat is slowly developed by the repeated injection of very small doses (0.001 gramme to the kilo of body weight), the pulse-rate is at first decreased, then increased, and finally decreased. A single very small dose causes a decrease, a small to a moderate dose an increase; large doses a transient decrease followed by an increase; very large doses a more or less permanent decrease. The primary decrease, which only can be developed by very small doses, is due to a stimulation of the cardio-inhibitory centres; the secondary increase to a depression of the same centres, and which may be assisted by a similar action on the cardio-inhibitory peripheries; and the final decrease to a depression either of the accelerator or automatic motor-ganglion in the heart. The height of the pulse curves during these changes is always in inverse relation to the frequency of the beat. 4. The cardio-inhibitory centres are invariably affected, being primarily stimulated, and secondarily depressed; but the action on the peripheries is of a very inconstant character, although a primary stimulant action is never manifest the depressant action is sometimes present to a profound degree very early in the poisoning, and, at others, absolutely absent up to the time of death. 5. The arterial pressure is always increased, unless it be after large doses, when it may temporarily be diminished, followed by a rise above the normal; or after very large doses, be permanently lowered. The increase may be decided long after the development of the third stage of the actions on the heart, and, therefore, may outlast the period of the acceleration of the heart's beat. The increase is chiefly due to a stimulation of the vaso-motor centres in the medulla oblongata; to a slight stimulation direct of the vessel-walls; and to the acceleration of the pulse. The final fall of pressure is chiefly dependent upon a depression of the heart, and partly to vaso-motor depression. 6. The effects of cocaine in normal and curarized animals are identical, unless, in the latter, the curare has been used to excess. 7. Cocaine is a decided circulatory stimulant.—*American Lancet.*

Treatment of the Night-sweats of Phthisis.—Huchard reports the results with many medicaments tried for the relief of the sweating of phthisical patients. Among these may be mentioned lead acetate, tannin, phosphate

of lime, ergot, atropine, and muscarine. Of these the two first are unreliable, and are seldom used. Probably atropine sulphate is the most valuable (one-half to one milligramme at night). Phosphate of lime should be given in large doses (one or two drachms daily) to produce anhidrotic effects, and even in these doses it has sometimes failed. Ergot (fifteen to twenty-two grains of the powder at night) is much more reliable. When the sweats co-exist with more or less marked fever, the author recommends the use of quinine combined with ergot.

℞ Quinæ sulph..... gr. xvi.
Pulv. ergotæ ..... 3 ss.
Divide into four cachets—two or three to be taken daily.

This formula is especially valuable in phthisis with hæmoptysis. Lastly, powdered agaric is an excellent remedy, not equal to atropine, but perfectly harmless, and never causing derangement of digestion. It may well be combined with tannin or belladonna, given in doses of three or four grains. The same writer speaks very highly of antipyrin in the initial fever of tuberculous patients. The older drugs, quinine, tartar emetic, salicylic acid, all fail, or have but slight effect. It is especially in this initial fever that antipyrin is of great service. One must, however, distinguish between an analgesic and an antipyretic dose of the drug. To obtain the former effect, one would give a large dose (say fifteen to thirty grains) in a short time, but this must not be done if its best action as an antipyretic is desired. It is well for this purpose to use constantly decreasing doses (say sixteen grains, twelve grains, eight grains) taking care to divide them so that at no time during the twenty four hours is the patient not under the influence of the drug. Used in this way, Huchard declares that antipyrin seems to have a special action on the tuberculous lesion, and to greatly retard or to arrest its progress. Professor Combemale has used tellurate of sodium in phthisical and other sweating. It was first recommended by Neusser, who gave one-third or two-thirds of a grain in pill once daily. Combemale gave it up to nearly one grain per dose, and tried its effects in eleven cases. His conclusions are, it is a powerful anti-sudorific; a dose of nearly one grain gives the best results; it gives rise to digestive troubles, and especially to a strong garlic odor in the breath. All the compounds of the tellurium cause a very disagreeable odor in the breath, and this must always be a bar to their employment, as it is very persistent and disagreeable.—*Canada Lancet.*

What is the Best Nutritive Enema?—Nutritive enemata, though often indicated in cases of œsophageal or gastric disease, are comparatively rarely used, because of the general scepticism as to their utility. Either they are of but little nutritive value, as in the case of bouillon, or they are difficult of absorption by the rectum, as in the case of milk. Leube suggested, in 1872, the use of pancreatized beef pulp, and afterward Ewald proposed the peptones of meat and of cheese as offering suitable material for rectal feeding. There is no doubt that the substances recommended by these writers are, in part at least, absorbed by the rectum. Nevertheless, their use has never become general, because of the difficulty of their preparation. Ewald, as a result of further experiments, found that eggs, even though not peptonized, were to a considerable extent absorbed by the rectal mucous membrane. According to the *Mercredi méaical*, Huber, of Zurich, has recently repeated Ewald's experiments in Professor Eichhorst's clinic, and announces that the absorption of the raw eggs is greatly aided by the addition of common salt. The salt is well borne, and causes, as a rule, no irritation of the bowel. He considers that eggs beaten up with salt, in the proportion of fifteen grains to each egg, are the best form of nutritive enema. His method of procedure is as follows: Two or three eggs are taken and thirty to forty-five grains of salt are added to them. They are slowly injected by means of a soft-rubber tube carried as high up into the bowel as possible. Three such enemata are given daily. An hour before each enema the rectum is cleared out by means of a large injection of warm water.—*New York Medical Journal.*

Hydrochlorate of Phenocoll.—This new antipyretic, has the marked advantage of being relatively very soluble in water. Since the first announcement the compound has been tried in a number of cases of phthisis and rheumatism by Dr. Hertel, with results sufficiently important to be worthy of special mention. The first two cases in which the author gave phenocoll were patients suffering from phthisis ulcerosa cavernosa. In the first case quinine and antipyrin had been previously given, and uselessly, before the new remedy was tried. Thirty, sixty, and seventy-five grains were administered daily in fifteen-grain doses. During the whole time of the application of phenocoll no disturbing effects of any kind were observed in the functions of the heart, lungs, or digestive organs. The febrile temperature was generally reduced 1° C. by fifteen grains within a few hours; in one case the reduction amounted in one hour to nearly 2° C. The effect was generally very transient, but when the febrile temperature recurred it was without shivering or perspiration. The only physiological sign of the excretion of the remedy was a dark brownish-red color in the urine, which deepened on exposure to air, or on the addition of ferric chloride. In the other cases of phthisis, phenocoll was given in eight-grain doses with little or no effect upon the temperature. No unpleasant subsidiary symptoms and functional disturbances were ever observed. More striking results were obtained in the treatment of acute rheumatism of the joints, characterized by painful swellings, hindering or quite preventing movement, and more or less fever. Under the administration of the remedies usually employed there was no improvement, and the cases even got worse. Here also seventy-five grains were given daily in fifteen-grain doses, and, in one instance, morphine in the evening. On the day following the beginning of the phenocoll treatment improvement was commonly noted, and after about four days the joints were quite painless. The author states that in none of these cases of articular rheumatism did the remedy seem to have any effect upon the temperature. The latter was now and then reduced 0.6° to nearly 1.5° C., but only for a short time, and without any certainty. The fever generally left the patients simultaneously with the appearance of general improvement. These beneficial results were obtained after the ordinary remedies, such as antipyrin, sodium salicylate, and antifebrin, had failed.—*Deutsche Medicinische Wochenschrift.*

The Treatment of Amenorrhœa and Dysmenorrhœa by Apiol.—According to Dr. Delmis, apiol is the active principle of the seeds of parsley. It is an oily fluid of an amber color, heavier than water, having a special odor resembling that of the seed from which it is obtained; has a piquant acrid flavor; insoluble in water, soluble in alcohol and ether, and in chloroform. It was at first supposed to be a succedaneum for quinine, but observation has not confirmed this. The experiments of Joret and Homelle have pronounced it to be a valuable emmenagogue. These observations have been confirmed by many other authorities, which are enumerated. In a physiological point of view apiol is absolutely innocuous. In doses of from fifty centigrammes to one gramme it produces slight cerebral excitement, such as is caused by coffee. In doses of from two to four grammes it produces drunkenness. With reference to its therapeutic action it has an effect on the uterus analogous to that of digitalis on the heart. To produce its full effect it should be given shortly before each period.—*Le Progrès Médical.*

The Influenza is again epidemic in Moscow in very severe form, numbers being prostrated by it daily.

MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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CULEX PIPIENS.

WE all know the creature, but may not perhaps recognize him as readily under this name as under the more familiar, but not thereby despised, one of mosquito. We said "him," but we were wrong, for, unlike what is found in some of the higher orders of creation, it is the females that make all the trouble and do all the biting and stinging, the male being a very inoffensive and harmless insect, shunning man and getting his sustenance from the juices of plants, a few drops of which suffice for the needs of his short career. We might know that nothing good could ever come from the culicidæ, for they start out in life in a way that no self-respecting larva could abide, swimming around, as if ashamed of themselves or of their progenitors, with their heads hanging down in the water and breathing through their tails.

A single mosquito, buzzing about on a warm summer night, can do more to keep away slumber than the uneasiest conscience that ever pricked the soul of man for his sins; yet in this part of the world, even in New Jersey, we do not think of the creature as one that can destroy life; its limit of evil doing is as a pruritifactive and profanity-causing pest. When present in large numbers, however, they may become as dangerous to man as the rattlesnake, or as the man-eater in the Indian jungle. In an article on poisonous insects, in the "Reference Handbook of the Medical Sciences," Mr. Riley, the government entomologist, says that the pestiferous little insects "have caused the rout of armies and the desertion of cities, and the hum of an insignificant gnat may inspire more terror than the roar of the lion. The bravest man on the fleetest horse dare not cross some of the more rank and dank prairies of Northern Minnesota in June. It is well known that Father De Smet once nearly died from mosquito-bites, his flesh being so swollen around the arms and legs that it literally burst. Those who have travelled in summer on the lower Mississippi or in the Northwest, have experienced the torment which these frail flies can inflict; at times they drive everyone from the boat, and trains can sometimes only run with comfort on the Northern Pacific by keeping a smudge in the baggage-car and the doors of all the coaches open to the fumes." There are said to be more mosquitoes to the cubic inch on the Magdalena River in South America than anywhere else in the known world, and it is madness to attempt a voyage up the river without a mosquito-netting and some ammonia or other preparation to relieve the itching of the bites received in spite of constant care. A story is told of an Englishman who was not afraid of a mosquito or two, and scorned to take any precaution before starting up this river for Bogotá. He soon had cause to repent of his foolish obstinacy, and after offering vainly all the money he had for the loan of a mosquito-netting for the remainder of the voyage, he was driven mad by his tortures on the third day of the sail, threw himself into the river, and was drowned. This may be true and it may not, but anyone who has ever faced one of these dense swarms without the protection of a thick net will have no trouble in recognizing the probability of its being an actual occurrence.

But one must give the devil his due, and even the mosquito has his good points, or rather let us say *her* good points, for, as we hinted before, the male has all the gentle unobtrusiveness and innocuous artlessness of his sex in other walks of life. The larvæ, wriggle-tails as they are usually called, swim about in stagnant pools and perform a useful service in purifying the water and freeing it from many swarms of microbes that are possibly inimical to man. But it is only in her tender youth that culex pipiens is good, and as soon as she gets her wings and becomes capable of working mischief, her period of usefulness to the community is at an end.

In addition to the irritation which she excites by her bites, she has been accused of carrying about the germs of disease on her proboscis, and thus spreading contagion and defying quarantine. Dr. Finlay, of Havana, has been trying to turn this to good account by making the mosquito the instrument of preventive inoculations against yellow fever. He recently published the statistics of his experiments in this direction, from which it would seem that his method may really possess some efficacy. The insects that have been seen to bite patients with yellow fever are carried away carefully and made to sting newly arrived and unprotected individuals. Dr. Finlay reports the results of over fifty cases of mosquito inoculation, and of these but four individuals contracted the disease in a severe form within three years after the inoculation, one only dying therefrom. Of the remainder some presented symptoms of yellow fever between the fourth and twenty-fifth day after inoculation, while others had no symptoms at this time, but suffered later from a mild attack of the disease. Some significant comparative statistics were obtained from the observation of sixty-five monks who, from time to time, arrived in Havana, where they all lived under similar conditions. Thirty-three of these were inoculated, and thirty-two were not. Only two of the inoculated suffered from well marked attacks of yellow fever, which, however, did not prove fatal; whereas eleven of those that had not been inoculated were severely attacked, no less than five dying.

There are numerous patent preparations recommended as efficacious in relieving the irritation caused by the sting of the mosquito, some of which are possibly very serviceable, but probably not more so than oil of cloves, ammonia, bicarbonate of soda, chloroform, or thymol. When none of these remedies can be obtained, it may be well to remember that the alkali of ordinary soap is often as efficacious as anything. As soon as a bite is felt, the part

should be moistened and rubbed with a piece of soap, the lather so formed being allowed to dry on the skin, and in a very short time, unless the individual be unusually susceptible to the poison of the insect, all irritation will have disappeared.

But prevention is, of course, better than cure, and most people who, for their sins, must live in a mosquito country, keep off the greater number of their enemies by sleeping under a mosquito-bar, although there is always one culex that manages to get in despite the utmost precaution. These bars are a great comfort, nevertheless, and even an absolute necessity in certain regions, but they are very inflammable, and serious accidents have resulted from their being set on fire by the flame of a candle or gas-jet in the neighborhood of the bed. We may therefore fittingly bring these konopological remarks to a close by presenting the following recipe, published by the *National Druggist*, for rendering mosquito-netting uninflammable:

"Make a solution of one part of ammonium sulphate to five parts of water and immerse the netting in the same. One pound of netting will require from twenty to twenty-four ounces of the solution to thoroughly saturate it. The material is entirely inoffensive, and the ease with which it is employed is not its least recommendation. After saturating the bar (or other material) with the liquid, it is necessary to pass a hot iron over the fabric to dry it and make it ready for use."

"DOES VIVISECTION HELP?"

No one is so blind as he who can, but will not, see. Under the above heading there is, in the "Open Letters" of the current number of the *Century Magazine*, a denunciation of vivisection and bacteriological investigation, signed, Edward Berdoe, M.R.C.S. It is against the workers in the latter field that his spite is especially directed. He would inoculate them with the filthy products of their own cultivations, and let them have a taste of the sufferings they inflict on the animals. He settles the hydrophobia question off hand, declaring that Pasteur has not discovered any remedy for the disease. Concerning tuberculin he says, "I know this Koch; he comes from Berlin and is going into oblivion."

From the foregoing quotations, which illustrate the tenor of the whole article, it is easy to see that Mr. Berdoe, M.R.C.S., belongs to the "one idea" school. It is characteristic of this class of thinkers that they hold on to their beliefs with an almost invincible pertinacity. There may be honest differences of opinion with regard to the value of the latest discoveries of Pasteur and Koch, but he who would place under the ban all bacteriological workers must find the closing decade of the nineteenth century a very uncongenial time. After long centuries of very slow progress, medical science has caught up with the spirit of the age, and during the last twenty-five years has advanced with giant strides. In fact, it is not too much to say that the isolation of the specific materies morbi of many of the contagions has been accomplished during that time. Human life has been lengthened. It is not fair to attribute this merely to a greater knowledge of sanitary laws, for these laws have in the main been formulated from the lessons which our bacteriological investigations have taught us.

But the anti-vivisectionists die hard. We believe they are engaged in a losing struggle, however, because they have on their side at present an ally which will some day change colors. We refer to the public at large. Men understand the rationale of vaccination, for it has been a matter of common knowledge for now these many years. Yet many intelligent men do not yet know that our information concerning contagious diseases, other than variola, is rapidly approaching that point where it will be of practical value. To remove an effect we must first get at the cause. This latter we are now slowly but surely doing, and as soon as we can present our knowledge in demonstrable form we shall have all reasonable thinking people on our side.

A NEW TREATMENT FOR ALOPECIA.

THE form of alopecia for which M. Moty suggests a new plan of treatment is that which proves at times so obstinate, in spite of all applications, commonly known as alopecia areata. At a recent meeting of the French Society of Dermatologie et Syphilographie, he presented a number of patients who had been subjected to intradermic injections of corrosive sublimate in strength of two to five hundred, and claimed that the treatment had proven very satisfactory, in that the growth of hair over the bald spots had been more rapid than after other modes of treatment. A variety of vehicles had been experimented with, until it was found that an aqueous solution was the best. Several injections of not more than five or six drops are made around each patch.

Modern investigations tend to show that there is at least one variety of alopecia, occurring in rounded plaques, which is due to the invasion of a micro-organism, and the observations of von Scholen, Thin, Robinson, and others in this field have rendered it scarcely justifiable for an author at the present day to attribute the affection to neurotic causes in all cases. If, as Robinson maintains, the organisms are situated deeply in the tissues of the scalp or other hairy portions of the skin, then the plan of treatment here suggested is eminently rational, and ought to be as successful as it is claimed.

It must always be remembered, however, that the disease is of a most erratic nature, and while at times it resists all our efforts, at others it shows a tendency to rapid and spontaneous recovery.

Besnier relates an instance in point, where a patient was treated in his service continually for two years without success. He was then sent to a colleague who continued exactly the same treatment, and a cure was promptly effected.

THE FUTURE OF AMERICAN MEDICAL GRADUATES.

A FEW years ago, Sir James Paget reported the results of an inquiry into the history of the graduates of one of the great London medical schools. His investigation showed that a considerable number, amounting, if we remember correctly, to about twenty-five per cent., left the profession for some more lucrative calling.

Dr. W. R. Hubbert reports in the *Medical Age* the results of his investigations of the history of one hundred of his medical friends after graduation. He found that nearly seventy-five per cent. had to resort to other employments in order to make a living: 23 received a salary either in addition to practice or separate therefrom; 15 were proprietors of drug stores; 3 were insurance agents; 4 loaned money; 1 sold real estate; 3 were connected with medical journals; 1 was an agent for drugs; 1 for books; 1 preached; 1 was in the patent medicine business; 2 were farmers; 1 a manufacturer; 2 gave massage treatment; 1 sawed wood, and subsequently suicided; 12 gave up in disgust, and 1 never tried practice at all; 29 graduates only in 100 exclusively devoted themselves to medicine, and of these 11 associated themselves with other practitioners, and in many cases subsequently fell heir to their practice. In the western part of the country, that is, west of the Mississippi River, sixty per cent. of all physicians are connected with drug stores, either as clerks or proprietors. In the East the proportion is much less, being from twelve to fifteen per cent. In the West, also, forty per cent. of them have an interest in farms."

If Dr. Hubbert's friends represent the average medical graduate, a very pitiful showing is made for medical practice as a means of gaining a livelihood. Yet there are many things which make the statements given above seem probable. It is well known that in this country we have about twice as many doctors relatively to the population as in Europe. It seems to be an economic law that it takes a population of at least one thousand to support one physician, and as in America the ratio is nearly one to six hundred, it follows that nearly one-half of the medical profession must find some other means to eke out an income.

News of the Week.

Cuban Medical Congress. — The second Congress of Cuban Physicians will be held in Havana in January next, under the presidency of Dr. Juan Santos Fernandez.

Assault upon a Physician.—A physician in Covington, Ky., sent a bill to one of his patients, which so an gered the man that he assaulted the doctor and injured him severely.

No Medical Law in Connecticut.—A petition is to be presented to the next Legislature of Connecticut, praying for the passage of a stringent law regulating the practice of medicine. For the absence of any effective medical law, Connecticut, Massachusetts, and a few other States are now conspicuous.

Dr. Robert Gifford died on August 10th, in Fredonia, N. H., aged sixty-three. He was a naval surgeon during the war, and was on board of the monitor Osage when it was blown up by a torpedo in Mobile Bay.

Dr. Henry Grant Keefer died recently at Honesdale, Pa., aged fifty-eight. He was born in Canada, and was graduated in medicine from McGill College. At the breaking out of the War of the Rebellion he entered the Union army as assistant surgeon, and served till the close of the war. He had practised at Honesdale since 1869. He leaves a wife and five children.

The Schoolmaster is Abroad. — The visitor to the Academy of Medicine in these dog-days is met at the entrance by a sign which informs him that "the Elevator stop for Repears."

The Law of Compensation.—Dr. Hershey reports in the *Medical News*, three cases of gastric ulcer cured without medicine by a strict diet of ice-cream. It isn't so bad, after all, to have an ulcer of the stomach.

Still Another.—The number of sure cures for tuberculosis is now so great, not to speak of those which the future will bring forth, that the disease ought to be very lightly regarded. The latest reported up to the hour of going to press is, we believe, the "guaiacol treatment" of Dr. Max Schüler. Seventy out of every hundred are said to be cured by means of iodoform injections combined with the internal administration of guaiacol.

Dr. T. H. Stuart, of Bradford, Pa., died on August 10th from the effects of a pistol-shot wound inflicted by himself. Dr. Stuart was a somewhat eccentric man in many ways, one of his theories, which he seems to have desired to put to the actual test, being that the easiest mode of death was by shooting. He was seventy-six years of age.

A Very Respectable Old Age.—It is reported that there are living in Dos-Kazan, Russia, a Kirghis peasant and his wife, each of them over one hundred and fifty years old. Their eldest son has himself reached the age of one hundred and twenty years.

Drummers for Doctors.—We rubbed our eyes, recleansed our spectacle-lenses, looked again at the journal cover, made sure it was not a summer theatre we were in —but had at last to confess that the words stood as given below. The periodical is "our esteemed contemporary," *The Journal of the State Medical Society of Arkansas*, and in its "Miscellany" there appears without comment or explanation the following: "List of Drummers for Doctors in the City of Hot Springs, Ark., to whom License has been Issued in Conformity to an Ordinance passed June 17, 1889." Since we do not wish to give a free advertisement to these gentlemen, we can only explain that the list comprises the names of twelve doctors, each followed by the names of his "drummers." One doctor has but one drummer, five have two, one has three, two have five, one has six, one ten, and one has eleven—fifty-one men "touting" and "heeling" for the doctors of one small town! The City Clerk swears the list is a true abstract of the office records, and a note appended explains that the "hotel and doctor drummers" are by ordinance required to take out a license, and wear badges showing their vocation.—*Medical News.*

The Judge's Experience Did Not Count.—Judge Cowing, of New York, stated in his charge to the jury, in a murder trial where expert testimony was employed, that he had tried a great many cases where physicians had appeared as witnesses, and it was a most remarkable circumstance that you could always get an equal number to swear on both sides of any question. The Court of Appeals set the verdict aside and scored the judge for appearing as a witness, as he "had no right to import his so-called experience as to experts" into the case.—*Medical Standard.*

Congress on Hypnotism.—The annual meeting of the French Society of Hypnology was held in Paris on July 20th and following days. The society includes, in addition to physicians, many magistrates, lawyers, and men of science. M. Dumontpallier presided. M. Bernheim opened a discussion on the connection between hysteria and hypnotism; he combated the idea that the two conditions were identical, or even analogous, his main argument being founded on the large proportion of persons who can be hypnotized. He stated that he had been able to hypnotize sixty-nine patients out of seventy-two in hospital under his care for various diseases, and urged that it was absurd to suppose that so huge a proportion could be hysterical. M. Bérillon followed with the somewhat astonishing statement that almost all children could be hypnotized, except those who were idiotic or hysterical.

Human Vivisection.—Some three years ago Hahn, a Berlin surgeon, reported the experimental inoculation of six pieces of carcinomatous tissue taken from one breast of a woman and transplanted into the other breast. In fourteen days the grafts had united, and in four weeks the microscope showed the tissues about the transplantations to be carcinomatous. Strangely enough, this observation seems to have passed unnoticed and uncondemned even by those that are now very properly shocked at recent similar procedures.—*Medical News.*

Dr. Guillotin.—A pathetic picture is the horrible immortality of Dr. Guillotin. One of the most skilled sanitarians of his time; a pioneer in prison reform; a philanthropist shocked by the tortures of the public executioner, he sought to save pain by substituting the certainty of machinery for the uncertainty and resultant brutality of a swordsman. His name in its horrible fame is likely to outlive Cæsar's. Many sanitary reforms instituted by him still guide modern sanitation.—*Medical Standard.*

American Orthopedic Association.—The following is the programme of the Fifth Annual Meeting of the American Orthopedic Association, to be held in the Arlington Hotel, Washington, D. C., September 22, 23, 24 and 25, 1891. First Day, Tuesday.—"The President's Address," by Dr. A. B. Judson; "The Orthopedic Work of the Late Mr. Thomas," by Dr. A. J. Steele; "Uniform Nomenclature in Orthopedic Surgery," by Dr. W. R. Townsend; "Two Cases of a Peculiar Type of Primary Crural Asymmetry," by Dr. Henry Ling Taylor; "On the Best Means of Preventing a Loose Joint, or Dangling Limb, after Resection at the Shoulder-joint, with an Illustrative Case," by Dr. W. R. Whitehead; "A Case of Spina Bifida with Partial Motor and Sensory Paralysis, Double Equino-Varus and Purulent Bursitis," by Dr. H. Augustus Wilson; "Congenital Club-Foot, with Absence of Great Toe and Contiguous Bones of the Instep," by Dr. T. M. L. Chrystie; "A Case of Club-Foot, Club-Hand, and Multiple Joint-Deformity," by Dr. William E. Wirt; "On the Use of the Wrench in the Treatment of Club-Foot," by Mr. Robert Jones, of Liverpool; "Operation upon the Concave Surface in Talipes Equino-Varus," by Dr. B. E. McKenzie; "The After-Treatment of Excision of the Knee-Joint," by Dr. John C. Schapps; "Gonorrhœal Rheumatism and Its Treatment, Primary and Secondary," by Mr. B. E. Brodhurst, of London; "Atrophy in Joint-Disease," by Dr. E. G. Brackett; "The Diagnostic and Prognostic Value of High Temperature in Chronic Joint-Disease," by Dr. Robert W. Lovett; "On the Tests for Recovery from Joint Disease," by Mr. Robert Jones; "Apparatus for Making Traction," by Dr. William E. Wirt; "Some Lateral Traction Fixation Hip-Splints," by Dr. A. M. Phelps. Second Day, Wednesday.—"Rachitis in Adolescence," by Dr. Bernard Bartow; "The Aspirator in Orthopedic Practice," by Dr. Ap Morgan Vance; "Congenital Misplacement of the Hip, with New Apparatus for its Treatment," by Dr. A. M. Phelps; "A Study of Atrophies," by Dr. Roswell Park; "The Diagnosis of Pott's Disease," by Dr. Robert W. Lovett; "The Differential Diagnosis in Pott's Disease," by Dr. George W. Ryan; "Syphilitic Pott's Disease in Children," by Dr. John Ridlon; "Pott's Disease and Pregnancy," by Dr. T. Halsted Myers; "Paraplegia in Pott's Disease," by Dr. E. G. Brackett; "Pressure-Myelitis in Pott's Disease," by Dr. Albert Hoffa, of Würzburg; "Abscesses in Pott's Disease," by Dr. Herbert L. Burrell; "Abscesses in Pott's Disease," by Dr. W. R. Townsend; "The Evacuation of Spinal Abscesses without Drainage," by Mr. George Arthur Wright, of Manchester, England; "Bilateral Lumbar Abscess, with a Case," by Dr. James K. Young; "The Benign Course of Abscesses in Pott's Disease under Efficient Mechanical Treatment," by Dr. Newton M. Shaffer; "The Value of Mechanical Treatment in Old and Neglected Cases of Pott's Disease," by Dr. Henry Ling Taylor; "The Mechanical Treatment of Pott's Disease, with an Exhibition of Apparatus," by Dr. A. M. Phelps. Third Day, Thursday.—"Malignant Disease of the Vertebræ Simulating Pott's Disease," by Dr. A. B. Judson; "Paralysis in Pott's Disease," by Dr. Charles L. Scudder; "Prognosis in Pott's Disease," by Dr. Samuel Ketch; "Proposed Treatment of Pott's Disease by Wiring the Vertebral Processes," by Dr. B. E. Hadra; "The Operative Treatment in Spinal Caries," by Dr. De Forest Willard; "The Treatment of Pott's Disease, with Especial Reference to the Early Stage," by Dr. Bernard Bartow; "Pott's Disease in Adults," by Dr. A. J. Steele; "Pott's Disease in Middle and Advanced Life," by Mr. Howard Marsh, of London; "Cervical Spondylitis," by Dr. L. A. Weigel; "The Prevention of Unnecessary Deformity in Pott's Disease," by Dr. Royal Whitman; "A Brief History of the Use of Suspension in Pott's Disease," by Dr. Benjamin Lee; "Recumbency in Pott's Disease," by Dr. Ap Morgan Vance; "Extension in Pott's Disease," by Dr. B. E. McKenzie; "Extension in Bed," by Dr. Charles C. Foster; "Traction and Fixation in Pott's Disease," by Dr. Reginald H. Sayre; "The Treatment of Pott's Disease," by Dr. V. P. Gibney; "Comparative Value of the Present Modes of Treatment of Caries of the Spine," by Dr. E. H. Bradford. Fourth Day, Friday.—"A Further Contribution to Typhoid Spine," by Dr. V. P. Gibney; "The Treatment of Congenital Dislocations of the Hip," by Dr. E. H. Bradford; "On Elongation of the Ligamentum Patellæ as a Factor in the Production of Certain Knee Troubles and Difficulties in Locomotion," by Dr. Newton M. Shaffer; "Observations on Torticollis, with Particular Reference to the Significance of the So-called Hæmatoma of the Sterno-Mastoid Muscle," by Dr. Royal Whitman; "Ten

Cases of Excision of the Knee-Joint for Disease, and their Lessons," by Dr. Joseph D. Bryant; "Rheumatic Spondylitis," by Dr. George W. Ryan; "The Definition and the Scope of Orthopedic Surgery," by Dr. V. P. Gibney; "The Relations of Lateral Curvature of the Spine and Flat Foot," by Dr. Paul Redard, of Paris; "Pathological Anatomy of Lateral Curvature of the Spine," by Dr. F. Beely, of Berlin; "Means of Recording Rotation in Lateral Curvature," by Dr. E. H. Bradford; "A Contribution to the Etiology of Lateral Spinal Curvature," by Dr. Charles L. Scudder; "Modifications in the Treatment of Lateral Curvature," by Dr. E. H. Bradford; "Spastic and Infantile Paralyses," by Dr. De Forest Willard; "The Operative Treatment of Spastic Paralysis," by Dr. L. A. Weigel; "The Operative Treatment of Spastic Paralysis," by Dr. Charles L. Scudder; "Additional Notes on Sacro-Iliac Disease," by Dr. Benjamin Lee.

Yellow Fever is reported to be epidemic again in Port au Prince, Hayti. Several of the crew of a French man-of-war in the harbor have died of the fever, and others are down with the same disease.

Pennsylvania Railroad Surgical Society.—A meeting of the surgeons to the Pennsylvania Railroad has been called, at Cresson, Pa., Thursday, September 3d, for the purpose of organizing the "Pennsylvania Railroad Surgical Society." Information concerning the proposed society may be obtained by writing to Dr. I. P. Klingensmith, of Blairsville, Pa.

The International Congress of Hygiene and Demography.—The seventh annual session of this association was opened by the Prince of Wales, in St. James's Hall, London, on Monday August 10th. There were nearly 2,500 delegates present in the hall at the opening, among them, according to the cable report, being Pasteur and Koch. In his opening address, the Prince of Wales referred to the need for deliberations, such as those for which his auditors had assembled, the need growing ever more pressing as new problems in hygiene appeared for solution by students of that most important science. The unhygienic conditions of factory life, overcrowding in the cities, and the neglect of sanitary laws in centres of dense urban population were all sources of danger to which the people were exposed. The removal of these sources of danger with the least possible interference with the rights of capital and the liberties of the people, was a problem to the solution of which many of the greatest thinkers of the age had devoted much of their time, and which yet remained to be solved. He was happy to say, however, that statistics showed a marked improvement in this direction, and this might safely be taken as an earnest of the increased good to be accomplished by scientists in the future. Tuesday's session was devoted chiefly to the discussion of rabies, and of the most common animal parasites communicable to man. On Wednesday the papers read dealt, for the most part, with diseases communicated to man through milk and animal food. Thursday was given up to a discussion of tuberculosis in all its various aspects, among those appointed to speak being Dr. Burdon Sanderson, of London, and Professor Bang, of Copenhagen. It was announced that the programme for Friday would include the consideration of infectious diseases communicated from the lower animals to man, and *vice versa*. Saturday was reserved for excursions to various points of interest in a hygienic way in and about London, and on Monday the closing session will be held in the University of London.

Dr. Massei to Dr. O'Dwyer.—Professor F. Massei, of Naples, publishes, in the *Medical and Surgical Reporter* of August 8th, an article on intubation in Italy, which, he says, he offers as the best homage he can pay "to the genius and ability of the distinguished inventor of intubation, Dr. O'Dwyer."

The Memphremagog Hospital Clinic is the name of an institution recently established in Newport, Vt., by the physicians of that place and of West Derby.

Tetanus Neonatorum destroys almost every child born in the island of St. Kilda in the West Hebrides. Not more than one child of twelve to fifteen born survives the second week. There is no physician on the island, but the resident minister has gone to Glasgow to induce someone to come to the relief of the fated infants.

A Bone-Shedder.—Dr. Bell, of Parrottsville, Tenn., reported the case of a woman who sheds her bones, and showed some of the specimens before the East Tennessee Medical Society (*Meaical Standara*). He said: "The patient is seventy-one years of age, seemingly in perfect health, a well-preserved woman of medium height, average weight, and normal in every other respect. Twenty-one years ago the exfoliation of bone began in her fingers, and has during the succeeding years continued until she has twice shed ulna and radius, humerus, scapula, and part of inferior maxillary. This shedding takes place spontaneously without pain, hemorrhage, suppuration, inflammation, or inconvenience. On one occasion when churning she shed the radius. There is no deformity, supination, pronation, extension, flexion, and circumflexion being perfect. The bones shed (about six hundred pieces) were, on careful inspection by the society, found to be entirely natural. She has given about one hundred pieces of bone away as souvenirs. The woman is conscious of the pending expulsion of a bone about ten minutes before it takes place, and a perfect bone is always left in its stead. The bone makes its way out, always on the posterior side, and the wound heals by first intention, though at the 'exit of the bones' were numerous small scars. She has always been in comfortable circumstances and is cheerful, a very interesting fact as showing the power of the mind to adapt itself to extraordinary circumstances."

Bequests to Charities.—By the will of the late Rev. C. W. Morrill, the House for Consumptives gets $5,000 and St. Mary's Hospital $5,000. By the the will of the late David Stewart, St. Luke's Hospital gets $5,000. By the will of the late Isaac H. Frothingham, Brooklyn Hospital gets $2,000.

Tri-State Medical Association.—The third annual meeting of this Association will convene in Turner Hall, Chattanooga, Tenn., Tuesday, October 27, 1891, and continue in session three days. All who desire to read papers should send title before September 1st, to the Secretary of the Association, Dr. F. T. Smith, Chattanooga, Tenn.

Reviews and Notices of Books.

A Practical Treatise on Fractures and Dislocations. By Frank Hastings Hamilton, M.D., etc. Eighth Edition, Revised and Edited by Stephen Smith, M.D., etc., New York. 8vo, pp. 849. Philadelphia: Lea Brothers & Co. 1891.

Probably no treatise on special surgery has brought more renown to American medical literature than has the one now before us. Eight editions are its best commendation. The present editor was a pupil of Dr. Hamilton, and was largely concerned in the preparation of the original first edition. But science grows, and no matter how complete a book may be for its time, it needs periodical revision to enable it to hold its own against new-comers and to keep abreast of the times. Some famous old preachers used to say that they had to preach a sermon thirty or forty times, more or less, in order to get it into thoroughly proper shape. So a book of such a nature as Dr. Hamilton's has to be rewritten more or less completely every few years. In the present issue the text has been rendered more compact, irrelevant matter has been omitted, and a smaller size of type used in the narration of purely clinical matter. The illustrations are more complete, and the subject-matter brought down to our present knowledge. It still bears the original impress of conscientious regard for truth and of accuracy of detail. It seems to be that happy medium between a mere text-book and a collection of clinical cases. It is in a sense both, but the combination of didactic with clinical teaching which its pages illustrate is one rarely met with in such a perfect degree. Well can we appreciate the editor's remark, that his work has been a grateful service. "Hamilton on Fractures" will still continue to be, as it always has been, a "court of last resort" for those puzzling questions every person meets in treating this class of injuries.

A Treatise on Surgery. By C. W. Mansell Moulin, M.D., Oxon., Surgeon to the London Hospital. 8vo, pp. 1180. Philadelphia: P. Blakiston, Son & Co. 1891.

Dr. Moulin's work has partially been that of editor, as he has had the assistance of various writers on special subjects. Among these latter writers may be mentioned Hutchinson, Hovell, and Eve. Special attention is given throughout to treatment, and the discussion of controverted points on pathology, etc., is relegated to the background. The key-note is the "idea that the chief aim and object of surgery at the present day is to assist the tissues in every possible way in their struggle against disease."

From such a stand-point it goes without saying that the writer's attitude is a conservative one. He is, however, free from hesitancy, and shows a keen appreciation of the rapid strides of surgical art in the last decade. No less than two hundred of the illustrations were drawn expressly for this work. It has all the conciseness of Druitt's well known work, and the advantage of a somewhat more extensive description of certain conditions occurring in practical work. The book is creditable alike to author, assistants, and publishers.

A Practical Treatise on Diseases of the Skin. By Henry G. Piffard, A.M., M.D., Clinical Professor of Dermatology, University of the City of New York, etc. Assisted by R. M. Fuller, M.D. Pp. (10 × 14) 157. New York: D. Appleton & Co. 1891.

Probably in no department of medical literature has more creditable work been done by our local profession than in works on dermatology. The elaborately illustrated works of Fox and Morrow have met with a flattering reception, and to them is now added a third which well sustains its author's reputation. In accordance with its title, it deals almost entirely with the practical side of the question, and omits all discussion which would interest only the specialist. In the author's view our knowledge in regard to the pathological histology of the skin is in an extremely inchoate state, and he has therefore systematically omitted reference thereto.

The illustrations comprise fifty full page original plates, with thirty-three illustrations in the text. The plates are taken from photographs made by the author with the aid of artificial light, which he has found superior for this purpose to day light. Dr. Fuller has prepared the articles on Anidrosis, Dysidrosis, Ichthyosis, and Morphœa.

The first sixteen pages are devoted to general remarks on diagnosis and treatment. Then follows the description of the various skin affections. A good point is the fact that the plates are opposite the descriptive text, and not (as is so often the case in books of this kind) a few pages before or after. It will always be a disputed point whether skin lesions are more accurately depicted in tinted or untinted plates. These plates are untinted, but are accurate in every detail, reflecting great praise on the artistic ability of the author. Dr. Piffard does not claim for his book, that it contains all there is to be said on the subject; but that it does contain the fundamental principles illustrated in daily work, and that, too, clearly and concisely stated, no one can deny. It is essentially a working book. As such we welcome it and predict many editions. The concluding article deals in a brief, yet comprehensive, manner with the subject of Psorospermosis. Dr. Piffard regards the so-called Psorosperms not as animal parasites, as has been asserted by some writers, but as simple rete-cells undergoing a species of corneous degeneration. He regards the subject as one whose development is likely to cause great changes in theoretical dermatology.

Insomnia and Its Therapeutics. By A. W. Macfarlane, M.D., Fellow of the Royal College of Physicians, Edinburgh, etc. (From Wood's Medical and Surgical Monographs.) 8vo, pp. 302. New York: William Wood & Company. 1891.

The book opens with chapters on the general physiology of sleep-dreams, etc., with special detail on the conditions which influence sleep and sleeplessness. Then follow chapters on insomnia as caused by disordered states of the various bodily apparatus, as the nervous system (which naturally receives the greatest amount of attention), the alimentary tract, circulatory and respiratory systems, etc. Insomnia due to gout and to toxic agents, and habits of various kinds, receive each a special chapter. As is implied in the title, therapeutics have a prominent place, and many prescriptions are given which the author has found to be of service. A general discussion on bathing and electricity as applicable to the relief of insomnia, closes the volume.

A work of this kind, founded as it is on a scientific basis, has a most important mission in these days, when new hypnotics come along in bewildering profusion. The temptation now is for the careless practitioner to use somnal-hypnone and others of the class without any very clear conception of what their effects really are. Dr. Macfarlane does not ignore any aid of modern pharmacology, but his therapeutics are commendable in that they aim to remove causes rather than to merely relieve effects. The work is to be unhesitatingly commended.

Philadelphia Hospital Reports, Vol. I., 1890. 8vo, pp. 363. Edited by Charles K. Mills, M.D. Philadelphia: Detre & Blackburn. 1891.

The volume gives a history of the early and later days of that institution so widely known as the "Blockley" Hospital, and is of course of interest mainly to Philadelphia physicians. The other portions of the work describe the clinical results of the service in the various wards, histories of local epidemics, etc. Among the contributors are: Drs. Mills, Deaver, Dercum, Formad, Davis, and

S. Solis-Cohen. It is a most creditable production. It suggests most painfully the lack of any such publication from our New York hospitals, with their vast amount of clinical material; which might as well be in Jericho so far as doing any good to general medical knowledge is concerned.

CHILDBED NURSING. By CHARLES JEWETT, M.D. Pp. 40. New York: E. R. Pelton. 1891.

THE writer originally prepared this manual for the training-school in the Long Island College Hospital, in which institution he fills the chair of Obstetrics. It is the best work of its kind to put in the hands of beginners that we have yet seen, and we say this advisedly. The plan followed is that of statements in condensed paragraphs. Anyone who can read English and who has an ordinary amount of common sense can understand what is meant, and we take it that in a manual of this kind that is the criterion to go by. Dr. Jewett has made the way of obstetric nursing so plain that "the wayfaring man (or woman), though a fool, need not err therein."

THE POCKET MATERIA MEDICA AND THERAPEUTICS: A Résumé of the Action and Doses of all Officinal and Non-officinal Drugs now in Common Use. by C. HENRI LEONARD, A.M., M.D., Professor of the Medical and Surgical Diseases of Women and Clinical Gynæcology, Detroit College of Medicine; Member of the American Medical Association; of the Michigan State Medical Society; of the Wayne County Medical Society; Detroit Gynæcological Society, etc. Detroit: The Illustrated Medical Journal Co. 1891.

THIS is a convenient little work of reference for the busy man who wants to refresh his memory, or gratify his curiosity, concerning the origin, dose, and medicinal properties of any drug, and has not much time to do it in. The work is rather one of materia medica than of therapeutics, very little space being given to the latter department. The different drugs are treated of in alphabetical order, the officinal ones under their pharmacopœial names, and the non-officinal under their scientific names if they have any, otherwise under the designation by which they are generally known. The value of the book as one of reference consists in great measure in its completeness, many of the newer remedies being included, a description of which would be found elsewhere only after laborious search. This value would, however, be greatly enhanced by the addition of an index of the English names of the drugs and of the plants from which they are derived.

A TEXT-BOOK OF PRACTICAL THERAPEUTICS, WITH ESPECIAL REFERENCE TO THE APPLICATION OF DRUGS TO DISEASE AND THEIR EMPLOYMENT UPON A RATIONAL BASIS. By HOBART AMORY HARE, B.Sc., M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia; Laureate of the Royal Academy of Medicine in Belgium; of the Medical Society of London; Fellow of the American Association of Physicians; of the American Society of Physiologists; Secretary of the Convention for the Revision of the United States Pharmacopœia of 1890. Second Edition. Philadelphia: Lea Brothers & Co. 1891.

IT is not often that the second edition of a medical text-book appears within eight months of the first, and the fact that such is the case with the volume before us bears stronger testimony to the excellence of the work than could anything that might be said of it in a brief notice. In the notice of the first edition, in January of this year, we described the general plan of the work, which is a thoroughly practical one, and moreover one that permits of easy reference to any drug or the treatment of any disease concerning which the reader seeks information. The author has taken the opportunity of the appearance of a new edition to revise the work, adding some new drugs and discussing some others more fully, and has also introduced a notice of the rest cure, and the treatment of spinal affections by suspension. The book is one that can be confidently recommended to any, students and practitioners alike, who may desire a practical and reliable guide to modern therapeutics.

PRIMER CONGRESO MEDICO REGIONAL DE LA ISLA DE CUBA, CELEBRADO EN LA HABANA EN ENERO DE 1890. Habana: A. Alvarez y Ca. 1890.

THE first Cuban Medical Congress was evidently a great success. Many excellent papers were read, and there was a large attendance of practitioners from different parts of the island. The volume of transactions before us is a large octavo of nearly six hundred pages, filled with original communications read before the Congress and with the discussions upon them.

COLLECTED CONTRIBUTIONS ON DIGESTION AND DIET. By SIR WILLIAM ROBERTS, M.D., F.R.S. Formerly Physician to the Manchester Royal Infirmary, and Professor of Medicine in the Victoria University. Pp. iv. 261. Philadelphia: Lea Brothers & Co.

THIS volume consists mainly of a reprint of two publications by the author—namely, the Lumleian Lectures on the "Digestive Ferments and Artificially Digested Food," delivered before the College of Physicians in 1880, and a course of five lectures on "Dietetics and Dyspepsia," given at the Owens College in 1885. These two books ran through two editions, and there still being a demand for them, the author has printed them together and added five other lectures on kindred subjects. The volume therefore embraces all the distinguished author has written on Digestion, Dietetics, and Dyspepsia, in which subjects he is the acknowledged leader of the age. To him more than to any other man belongs the credit of bringing artificially digested food to its present favor with the profession. His lectures are of great value and interest, and the work in hand will be warmly welcomed by physicians.

A TREATISE ON THE DISEASES OF THE NERVOUS SYSTEM. By WILLIAM A. HAMMOND, M.D., Surgeon-General United States Army (Retired List). Late Professor of Diseases of the Mind and Nervous System in the College of Physicians and Surgeons of New York, the Bellevue Hospital Medical College, the University of the City of New York, and the New York Post-Graduate Medical School and Hospital, etc.; with the collaboration of Græme M. Hammond, M.D., Professor of Diseases of the Mind and Nervous System in the New York Post Graduate Medical School and Hospital, etc. With one hundred and eighteen Illustrations. Pp. 932. Ninth edition, with corrections and additions. New York: D. Appleton & Co.

TO criticise Dr. Hammond's work on Nervous Diseases would be as useless as to criticise Gray's Anatomy. Everybody in the profession knows what it is. It made its first appearance twenty years ago, and immediately took the front rank of all books of its kind in the English language. It was soon translated into French, German, and Spanish, and became in time the vade mecum of neurologists of all nations. It deserved its success. It was complete, and from a scientific stand-point far in advance of the times. It had the meat and the facts in it that one could store away and use. No book was ever more popular with teachers and students as a text-book. In addition to all of these good qualities, it was and is exceedingly readable. Dr. Hammond is a master of the English language, and his treatment of his interesting subject makes a book that even the layman can enjoy. In the twenty years that have elapsed since its first appearance the book has run through eight large editions. There is still a demand for it, and the present edition, which is a big improvement on all others, is issued to meet that demand. The author's investigations in the field of the circulation of the nervous system made him

famous years ago. He continues them here, and the chapters on Congestion and Anæmia of the Brain and Cord in this edition are more complete than ever before. Many scientific men consider his position an untenable one and his arguments imaginary, but nevertheless he explains many symptoms and conditions that are otherwise inexplicable, successfully treats them, and is upheld by men like Broca, Lombard, and Krishaber. The chapters on Inflammation of the Spinal Cord, Epilepsy, Plumbism, and Alcoholism are also worthy of special praise. The present edition, with the assistance of the author's son, has been brought up to the present time. There are many additions, noteworthy among which are several excellent illustrations.

THE GENUINE WORKS OF HIPPOCRATES, Translated from the Greek, with a Preliminary Discourse and Annotations, by FRANCIS ADAMS, LL.D., Surgeon. Octavo, 766 pp., extra muslin, gilt top. New York: William Wood & Company. 1891.

IT is not often that a physician, who is a bibliophile as well, can gratify his taste for handsome books, and at the same time keep within the limits of professional study. Editions de luxe of medical works are rare, yet they ought not to be, for we have old masters in medicine, and classical writings which are worthy of tender treatment at the hands of the printer and bookbinder. Hippocrates, of all the physicians of antiquity whose names have been preserved to us, is the best known and the most celebrated, and it needs but a hasty glance through his writings to show the reason why his fame has come down through the ages and has lived along with that of Socrates and Æschylus and Aristophanes and Pindar, and others of his contemporaries. One may not learn a great deal that is practically useful from these pages (and again, if he reads them understandingly he may learn much), yet he will be a sounder man and a more cultured physician, his views will be broadened and his wits sharpened by his perusal of the writings of the master. We know of no better leisure reading for the doctor, and withal the outward appearance of the book is as refreshing to the eye as are its contents to the mind.

WOOD'S MEDICAL AND SURGICAL MONOGRAPHS, Vol. X., No. 3. Contents: "Influenza Associated with Nervous and Mental Diseases," by DR. VAN DEVENTER. "Technique of Ling's System of Manual treatment as Applied to Surgery and Medicine," by ARVID KELLGREN, M.D.; "Antipyresis," by PROFESSOR DR. ARNALDO CANTANI; "Some Urinary Disorders Connected with the Bladder, Prostate, and Urethra," by REGINALD HARRISON, F.R.C.S.

THIS volume of the "Monographs," for June, 1891, is in line with preceding numbers as regards the interest and practical utility of the different papers. The first article is a careful study of the effects of influenza upon the patients in the wards for nervous diseases, at the Binten Hospital in Amsterdam. The paper on Ling's method of massage contains the lectures delivered at the request of the surgeons of the Imperial and Royal Austro-Hungarian Navy. These interesting chapters, illustrated by seventy-nine cuts from photographs, make up the bulk of this number. "Antipyresis," by Professor Cantani, is an interesting study of the subject. And the volume closes with the short but valuable paper by Mr. Harrison.

A Druggist's Slight Error.—Customer: You made a mistake in my prescription the other day. It called for ten grains of opium, and I got a small package containing magnesia.

Druggist: Are you sure about it?

Customer: Yes; here is a duplicate prescription from the physician. Now the question is, who got the opium?

Druggist: Dear me, that's so; (to the prescription clerk) James, who's dead in the neighborhood?

Society Reports.

THE BRITISH MEDICAL ASSOCIATION.

Fifty ninth Annual Meeting, held at Bournemouth, July 28, 29, 30, and 31, 1891.

(From our Special Correspondent.)

FIRST DAY, TUESDAY, JULY 28TH.

The Town of Bournemouth.—The fifty-ninth annual meeting of the British Medical Association commenced here to-day. Bournemouth is of comparatively recent growth, and the Association holds its annual meeting here for the first time. The town is one of great interest to the medical profession, as it has come very much to the front within recent years as a health resort; hence its extremely rapid expansion. It possesses several great natural advantages. Situate in a bay on the south coast, it is but a little more than a hundred miles from London, and an excellent train service renders it possible to reach the metropolis in about two hours and a half. The town consists of a valley in the centre running back from the sea, and rising gradually on either side to the level of the cliffs. The greater part of the valley is laid out as a public garden through which a small stream finds its way down to the sea. The town is built partly in the valley, but the greater part of it is located on the higher ground on either side. The East and West Cliffs contend in friendly rivalry for the honor of being the most salubrious region of the town, while the inhabitants of the valley maintain that their part of the town is at any rate more sheltered than either. The most recent extension of the town is westward, but the East Cliff is more thickly covered with pines, which, however, pervade more or less the whole district. The soil is sandy in most parts, and Bournemouth has the reputation of being an extremely dry place. That may be the case as regards the soil, but, considering the abundant vegetation, it can scarcely be said that the air is excessively dry, though a dry atmosphere used formerly to be enumerated among the special virtues of Bournemouth. To-day, however, its candid friends admit that the town is not specially suited for rheumatic patients. It is for phthisis and thoracic affections generally that Bournemouth is now chiefly recommended. The air is mild and, to some, even depressing. The pines give a certain amount of shelter from the winds and some fragrance to the air. London fogs do not appear here, though a "sea-mist" is occasionally seen. There are no noisome manufactories to pollute the air, and the latter is much more fresh than in most towns, owing to the fact that the houses are scattered over a large area instead of being closely aggregated together. Many of them are detached and have large gardens—even those which are used as lodging-houses and boarding-houses. Houses at Bournemouth are dear and the cost of living high. It is, therefore, more suited to the upper classes than to those with moderate means. Medical men get good fees, and few dispense their own medicines. There are about eighty doctors, though the population (excluding visitors) is only about seventeen thousand.

Bournemouth possesses no municipal buildings at all corresponding to the reputation it has attained. The meetings of the Association are therefore held somewhat under difficulties, the work of the sections being carried on in several separate buildings scattered about the town. The first general meeting took place this morning, when Dr. Wade, the retiring President, occupied the chair, only, however, to vacate it in favor of Dr. J. Thomson Roberts, the President-elect. After the usual vote of thanks the President of the Council moved the adoption of the annual report of the Council. It appeared from this that the Association had continued to increase, and that the present number of members was 13,861, being 501

more than at the corresponding period of last year. New branches had been formed, and the finances were in a satisfactory condition. The reports of the various committees were then presented in due order. In the afternoon a choral service was held at St. Peter's Church, when a sermon to the members of the Association was preached by the Rev. Canon Wilberforce.

Address of the President.—At the evening meeting DR. THOMSON delivered his presidential address. After bidding the members a hearty welcome he proceeded to speak of the town in which they were assembled.

A New Health-resort.—A few years ago, he said, Bournemouth would not have been large enough for their annual meeting. There were those among them, by no means very advanced in years, who could remember when it was little more than a village, and when the nearest railway station was twelve miles off. The growth of Bournemouth was due to several causes. In the first place, the result of residence here during the winter and spring months had been so satisfactory that invalids had returned winter after winter, and had brought their friends. Then people had made the discovery for themselves that, though a mild winter climate, Bournemouth was also a delightful summer climate, and thus there was a steadily progressive summer season. When he first knew the town, said Dr. Thomson, the summer season was very small. "Go to Bournemouth in July! why, you could cook chops in the sand," was the exclamation which would be made. But people now knew that this was the reverse of the truth, that it was in reality a cool and bracing seaside change—for the south coast—in summer. In the third place, care had been taken to preserve, and when possible to improve, the natural advantages of the district. Bournemouth had many attractions for the geologist, for the botanist, and for the antiquary. Dr. Thomson said that, relatively to the amount of labor which had been bestowed upon other branches, that which had been bestowed upon medico-meteorological researches might be described as meagre, and much further research was necessary. The climate of Bournemouth was influenced by the geological formation on which the town was built, by the geographical position, and by the pine woods which surrounded the district. Persons must not, of course, expect too much. They had not left England, and so must be prepared for the uncertainties of an English climate. There were classes of cases for which Bournemouth was not suitable and who did not get on well here. Bronchial cases with very irritable throat, which required a moister and more soothing climate, were better elsewhere. Many throat cases, with very irritable mucous membrane, also did better in moister climates, and away from the sea. And there were some forms of neuralgia which seemed to be aggravated either by dry air or the proximity to the sea. But this short list nearly exhausted the forms of invalidism which might not receive benefit from a sojourn here. When he first began work in Bournemouth a very large majority of the patients one saw were cases of lung trouble. Now he saw persons broken down in health from every possible cause, and, even with an extended experience, he did not feel called upon to enlarge the list of cases unsuitable.

After referring to the medical institutions of Bournemouth, Dr. Thomson concluded his address by discussing at some length the present position of medical officers of health in England, and the working of the most recent legislation in this matter as found in the Local Government Act of 1889.

SECOND DAY, WEDNESDAY, JULY 29TH.

Address in Medicine.—At the second General Meeting, held this afternoon, the address in Medicine was delivered by DR. T. LAUDER BRUNTON, F.R.S., of London. Dr. Brunton commenced his address by remarking that when friends met again, they invariably began to speak of the changes that had taken place since they parted. Twenty-five years ago their president and himself occupied adjacent rooms as resident officers at the Edinburgh Royal Infirmary.

A Quarter of a Century, and its Changes.—Perhaps there was no period in medicine in which more changes had occurred than during the twenty-five years which had since elapsed. Great changes had taken place as regarded the medical student. Previously to 1861 it was easy for anyone to become a medical student, however idle he might be, but in that year the General Medical Council instituted a compulsory preliminary examination. Two classes of students were colleagues with their president and himself, viz., those who had not passed a preliminary education, who were called the "old statutes" men, and those who had passed a preliminary examination, who were termed "new statutes" men. The "old statutes" students were rather a mixed assemblage; some were industrious, some were idle, and some, he was afraid, were disreputable. Among the "new statutes" students, there was a smaller proportion of idle men. Among the "old statutes" men, the subsequent struggle for existence was very severe; it was less severe among the "new statutes" men, by reason of the unsuitable men having been weeded out at the preliminary examination. The "old statutes" men comprised many who ought never to have been allowed to enter, and the weeding out process proceeded during life. This action on the part of the Medical Council had, by raising the status of the profession, caused more men to enter it, and thus led to its being more overcrowded. Increased numbers tended to the degradation of the profession, as it was rendered more difficult to get a living, and doctors were sometimes tempted to think more of their fees than of their patients. At first, however, the new regulation had a salutary effect. There had also been a change as to the education of the medical student. A doctor had to do much more now than to look at a patient's tongue and feel his pulse. He had not only to learn auscultation and percussion, but he had to study histology; he had to learn not only how to recognize tubercle bacilli under the microscope, but how to stain and examine them.

Changes in Disease.—There had also been changes in disease. Apoplexy was formerly said to be common; it was really rare and many cases used erroneously to be called apoplexy when they were not. Cancer was now said to be increasing; probably it was not really so but our increased power of diagnosis enabled us to detect many more cases than formerly. Our increased knowledge of medical chemistry enabled us to diagnose many cases of kidney disease which would formerly not have been recognized. But there were also real, as well as apparent, changes in disease. Typhoid fever was more common now than formerly because improved drainage disseminated the disease. Typhus, on the other hand, was less common. When he first met Dr. Thomson, at Edinburgh, the latter was constantly wearing a smoking-cap because he had had his head shaved in the course of an attack of typhus. Shortly afterward, one of the physicians and two of the house-physicians to the infirmary died, while another house-physician just escaped with his life. At the end of the year (1867) there were nearly one hundred and fifty patients in the hospital at once. The disease was stamped out a few days later when a certain close leading to the Cowgate, and which had been a hot-bed of fever, was pulled down to make way for the new University Building. Pyæmia, again, was now less common—thanks to Lister and antiseptics.

The greatest advances had taken place in nervous diseases and in fevers. If he had to describe in one word the advance which had been made he would say "fevers," though, thanks to Ferrier and localization, much more was now known about nervous diseases. As to fevers, we now knew that they were due to the introduction of disease-germs; we knew the life history of these germs and how to cultivate them. Now, everyone had a thermometer in his pocket. It was only toward the end of

his career as a student that the thermometer came to be used, and then a clinical thermometer was a foot long and had to be carried about under the arm in a case! In his time at Edinburgh, Dr. Hughes Bennett said he had revolutionized the treatment of pneumonia by substituting bleeding for feeding. One day, however, a man came into Bennett's wards whom he could not thus cure. The man was comatose—dying. Bennett was very angry. A Swede who was present asked Bennett's permission to treat the patient and, having received it, proceeded to dip rags in cold water and apply them to the patient. Dr. Brunton going to see the patient after a short time found him sleeping placidly. Anyone now using a thermometer and finding it marked 107° F., would cool the patient down. It was, indeed, not necessary to have it done by the medical man, for directions could be left with the nurse.

Little Things Often Lead to Great Results.—The speaker instanced many exemplifications of this adage. The history of antipyretics, he said, could be traced back to the cupidity of the Spaniards of the Cordilleras. They cut down the cinchona trees to sell the bark, and did not plant others. Quinine became so dear that it became evident that anyone who could make it artificially would make his fortune. Among others, Perkins tried, and though he did not succeed in making quinine he discovered the aniline dyes. We used these in histological work, and without them many of the bacilli would have defied detection. The impulse thus given to the study of the aromatic compounds led to the production of salicylic acid and acetanilide, antipyrin, phenacetin, and all the other antipyretic remedies whose number was probably legion, and whose formulæ were bewildering. Thus good came out of evil and, as St. Paul said, the foolish things of this world confounded the wise. Why did tartaric acid sometimes crystallize in one shape and sometimes in another? This might be thought to be a foolish question, but it had led to all Pasteur's researches, and by saving the wine trade of France and preserving the herds of cattle, he had enabled his countrymen to obtain the large sums which they had paid to the Germans as a war indemnity. Pasteur noticed that tartaric acid sometimes turned the ray of polarization to the right, sometimes to the left; that, indeed, there were two crystals apparently alike, but really different; and that these could be combined so as to form a symmetrical crystal having no power of rotation. This led him to look to life and living beings as the source of asymmetry. He tried to produce this asymmetry in salts of tartaric acid by fermentation, and found that during the process an organism developed which ate up the dextro-tartaric acid and left the lævo-tartaric acid behind. This led him to investigate such minute organisms, and he showed that most processes of fermentation were due to their presence. The two views of the action of ferments—namely, the chemical and the biological—might be likened to Pasteur's two kinds of tartaric acid, each by itself being lopsided and incomplete, and forming a symmetrical whole only when united. There could be no doubt that diastase was not a living organism, and yet it converted starch into sugar. There could be as little doubt of the biological view that yeast and other organisms which caused fermentation were living bodies, and that without their presence alcoholic, acetic, and other forms of fermentation would not exist. We had recently come to recognize that these living organisms might produce their effect by manufacturing chemical ferments, and that these ferments might occasionally do the work, though the organisms which formed them were absent. It was true that it was difficult, perhaps impossible, to get fermentation from the dead yeast-plant, but we might find a parallel for this in the fact that the pancreas of the higher animals sometimes yielded an active ferment and sometimes not. We need not wonder that the ferments produced by microbes had but a slight action compared with that of the microbes themselves, if we remembered how little power of digestion a dead pig's stomach had compared with that not only of the live animal itself, but of the herds of swine consisting of its "fathers and mothers, its brothers and sisters, its cousins and its aunts." In the process of fermentation microbes were growing, fermenting, and dying with great rapidity, and many generations occurred in a fermenting fluid in the space of a few hours, so that the total effect they produced would be out of all proportion to any which could be got from the microbes themselves at a single instant.

Micro-organisms and Disease.—From organisms as a cause of fermentation, and of the diseases of wine and beer, Pasteur went on to investigate their action as causes of disease in living beings—first, in the silkworm, next in the lower animals, and lastly in man. He established the dependence of the silkworm disease and of anthrax upon the presence of specific microbes which could be transmitted and communicate the disease, and by destroying the infected eggs of the silkworm he eradicated the disease and restored the silk industry to France. Pasteur then found that disease-germs could be grown outside the body and, under certain conditions, their virulence be reduced; the virus thus weakened could be again rendered potent by successive animal inoculations. Koch's method of "plate cultivations" enabled us to separate the different germs.

Dr. Burton went on to say that there was a struggle for existence among microbes, and also between microbes and the organism. The struggle for existence between the cells of an organism and microbes had been beautifully shown by Metschnikoff, in the daphne, or water-flea, where the process of the cells eating up the microbes or the microbes destroying the cells could be actually observed under the microscope. This process of phagocytosis was now regarded by many as only a small part of the struggle between an organism and a microbe, but it was impossible to see one part of a microbe half digested by the cell in which it was imbedded, while the part outside remained unaltered, without believing that the process was one of great importance.

Within the last few years attention had been gradually becoming directed less to the microbes themselves, and more to chemical investigation of the ferments which they produced. It was now possible to separate the albumoses and poisons from the microbes which produced them. As the albumoses produced by microbes were nearly allied, chemically and physiologically, to those formed in the alimentary canal of the higher animals by the digestive ferments, it was natural to suppose that microbes, like the higher animals, split up proteids, starches, and sugars by enzymes, which they secreted, and which in both cases might be obtained apart from the living organisms which produced them. The albumoses produced by microbes resembled those formed during normal digestion in being poisonous when injected directly into the circulation, though they might not be so when absorbed from the intestinal canal. Woolridge found that the thyroid and thymus glands yielded a proteid which coagulated the blood and caused instantaneous death; while Schmidt-Mühlheim, working under Ludwig's direction, found that peptones had an exactly opposite effect, and prevented coagulation altogether. This was something like Pasteur's two kinds of tartaric acid, for here we had two bodies, one of which destroyed coagulability, the other increased it, while many albuminous bodies had no action on coagulation whatever. Dr. Brunton quoted an illustration which he had used elsewhere. Albumin, he said, might be compared to a glass. Split it in two and it became harmful; join the broken halves and it became harmless again. Microbes might have this action on albumin in the organism. If one-half of the resulting products were destroyed in the organism, we could not reunite them, but it might be possible to get the other half from elsewhere.

Artificial Immunity against Disease.—Dr. Brunton then referred to the observations of Hankin, who found

that a few drops of rat's serum injected into a mouse rendered it as insusceptible to anthrax as the rat. Working on similar lines, Bernheim and Lepine had used the injection of goat's blood in phthisis, and Richet had used the serum of dog's blood. If immunity could be insured by such slight changes in the organism as a few drops of serum from a rat would produce in the body of a mouse, it was natural to suppose that a similar change might be effected by removing the albuminous substance from one part of the body and introducing it into another after it has perhaps undergone slight change. Experiments on animals had also shown that withdrawal of blood from the veins caused absorption of proteid matters from the tissues, and these might have an action of their own upon the blood and tissues generally with which they were brought into contact. Free purgation might have a similar action.

Antisepsis and Disinfection.—Speaking of antiseptics, Dr. Brunton said the Good Samaritan was the first to practise antiseptic surgery. In more recent times wine had been recommended as an antiseptic application. The leeches of the Middle Ages used various substances to apply to wounds, among them being Friar's balsam, which was an antiseptic, but irritating. They evidently thought it was the irritation which did good, for they made their applications more and more irritating. On one occasion Paré's ointments ran out, and, finding his patients did as well without them, he abolished their use. Antisepsis went away till Lister came, and he did not seek for irritants. The recent triumphs of brain surgery which Mr. Horsley had achieved, would have been impossible without Ferrier's localization, and would have been equally impossible but for Lister's antiseptic method.

Dr. Brunton then spoke of disinfection, the prevention of epidemic diseases, the antivivisection movement, and the gains from experiments on animals, and the future of pharmacology. He then adverted to the training of medical students, and said they should be so trained as to enable them to keep abreast afterward with medical progress. This could only be done by giving them a thorough grounding; and this training must be of a practical nature, not only in the way of demonstrations, but of actual work on the part of the student himself.

THIRD DAY, THURSDAY, JULY 30TH.

The Address in Surgery was delivered this afternoon by PROFESSOR CHIENE, of Edinburgh. Professor Chiene said he wished to take John Hilton as his hero, and as his subject, "Rest as a Therapeutic Agent in the Cure of Surgical Ailments."

The Surgical Value of Rest.—Professor Chiene said he would speak of simple things as illustrating this. He would not attempt to define rest, or its opposite—unrest. Rest had a bodily and a mental aspect. We all knew it was not work, but worry—mental unrest—which killed, and a person would bear much physical discomfort to be relieved from it. Operations for cancer were often unsatisfactory, but they often gave mental rest to a patient by letting him think that no stone had been left unturned. There was a class of cases—syphilophobia, cancerophobia—in which the whole disease was psychic. A patient confined to bed often suffered as much from mental inactivity as from disease. The prescription, "Don't worry," might with advantage be burnt, and "Do some work" take its place. He had seen patients suffering from aneurism who had shown decided improvement by encouraging them to do some light mental work. In diagnostic incisions we had a valuable means of avoiding mental unrest.

He would not dwell on anæsthesia as a cause of rest except to say that he still held that chloroform was the best anæsthetic; as a pupil of Syme, he felt proud that the Hyderabad Commission bore out the views of that far-seeing man. Cocaine was of great value as a local anæsthetic in adults. We must take care to employ a pure solution and not to inject it into a vein. He used it either as a solution of salicylate of cocaine, or kept in pellets, and dissolved when required in camphor-water or distilled water; he never injected more that half a grain. In passing bougies, in phimosis, in tracheotomy, in fissure, and in simple cases of fistula in ano, in excision of tonsils, before injecting iodine in hydrocele, in small wounds of the face before stitching, he had found the drug valuable—also, used in the form of a bougie, to prevent urethral fever. He allowed four minutes to elapse after injection before operating. Pain given to a patient was a cause of mental unrest and led to the loss of confidence between patient and surgeon; this was especially the case with children. In the dressing of a wound the avoidance of movement was all important, and in this connection he could speak very confidently of the value of the many-tailed bandage. When writing this portion of his address he counted one day when going round his wards the number of patients with this form of bandage on after operation; there were ten. In fracture of the pelvis the many-tailed bandage was infinitely preferable to the ordinary roller. A frequent cause of local unrest in wounds, and of the free serous oozing which accompanied it, was the use of unnecessarily strong antiseptics. Some years ago, a smart writer in a journal, said "Lister's arguments are getting stronger, his solutions are getting weaker." He would have been nearer the truth if he had said, "His arguments are getting stronger, because his solutions are getting weaker." Asepticism was taking the place of antisepticism. The main danger of contamination was from what was directly put into a wound (dirty instruments, etc.) rather than from what fell into it.

Another aspect of Hiltonism was the use of absorbable drains, so that dressing of the wound was not required in order to remove the drain. Leaden splints steadied limbs after amputation and excision; shape the splint so that it can be unfolded without moving the limb. Apply your pressure firmly, but always leave a distal portion of the limb exposed, so that if it swells then the pressure is overdone and the bandage loosened. Horsehair stitches were valuable as combining rigidity and elasticity. The value of extension in fractures of the lower extremities was acknowledged; we must take care it was not overdone. It was not sufficiently often used in fractures of the upper extremity or after excision of the elbow or knee. In fractures, injuries, and diseases of the spine, in sacro-iliac disease, and in fractures of the pelvis, the use of double extension was of undoubted value. On the arrest of hemorrhage, Dr. Milne Murray had explained the action of hot water and shown that the general shock and the local reaction were much less than with cold water; this well illustrated rest.

Professor Chiene gave several examples of the value of rest in rectal and vesical surgery. Gradual dilatation of the sphincter ani before operations gave rest after the operation, as it was followed by a temporary paresis. In colotomy, the inguinal region was preferable to the lumbar, because mental worry was avoided by making an artificial anus in a situation which the patient himself had under command. Rest could be given to the bladder by fixing in it a gum elastic catheter (taking care that the eye of the instrument was just within the cavity), and attaching to the catheter an India-rubber tube which passed into a vessel at the side of the bed. If the tube passed under water, and if the instrument and tube were full of fluid, there would be a siphon action which would remove the water from the bladder as it passed from the ureters. About a foot of fall was generally sufficient to keep the bladder empty; if the fall was too great, the mucous membrane was apt to be sucked into the eye of the instrument causing pain, and a stoppage of the outflow—the bladder filling with urine.

In tracheotomy, Hilton pointed out the value of rest to the inflamed larynx. In the treatment of cut throat, if we performed tracheotomy at once, and accurately united

the wounded surfaces, we obtained more rapid healing, because the wound was not used as a funnel through which air passed to the lungs. In using a bandage for varicose veins, it should be applied before the patient gets out of bed, and taken off after he is in bed, so that the veins do not fill; the same rule should be followed in the application of a truss. Continuous gentle elastic pressure would often act most efficiently, painlessly, and restfully in reducing an irreducible hernia, a prolapse of the rectum, or a paraphimosis.

Rest not Always Advisable.—In concluding, Professor Chiene said he wished it to be understood that there was another side to the picture. Harm might be done from too prolonged rest. Mechanical rest must also, in some cases, be interfered with to obtain physiological rest. Massage interfered with mechanical rest but it often got rid of effusions and relieved physiological unrest. It was a question whether we should not apply gentle massage in all fractures, so long as we could do so without displacing or causing movement between the broken fragments of the bone.

FOURTH DAY, FRIDAY, JULY 31ST.

Address on Public Health.—The concluding address was delivered this afternoon on Public Health by DR. EDWARD SEATON, Lecturer on Public Medicine at St. Thomas's Hospital, London. Dr. Seaton selected for his subject the Evolution of Our Sanitary System. The Public Health Act of 1872, he said, marked an era. Previously to that period medical officers of health were fewer and they were looked upon as mere sanitary referees to give advice when asked for. In 1872 their sphere of action was much enlarged. Many large towns—especially in the north—appointed medical officers of health, and their position was no longer that of mere sanitary referees. These appointments secured the continuous influence on the side of sanitation of men with a scientific and medical education. It used to be argued that it was not necessary that a medical officer of health should give his whole time to sanitary work.

Many very valuable reports were issued soon after the passing of the Public Health Act, such as those on unregistered deaths, cemeteries, etc. Legislation took place with reference to the construction of new houses. Before 1872 many of the older and poorer parts of our towns were mere rookeries. From 1873 to 1883 many local Acts of Parliament were passed, laying down conditions for new houses to be built as to site, light and air, the prevention of dampness, and the provision of proper drainage. In this respect London was very far behind many provincial towns; for example, the erection of such lofty blocks of model dwellings as there were in some parts of London, would never have been allowed in some provincial towns—even where the price of land was as high as in London. The Model By-Laws of the Local Government Board were very good, but it was useless to have model by-laws unless they were adopted and provision made for enforcing them. By the Public Health Act medical officers of health were made responsible to the Local Government Board. Dr. Seaton sketched the characteristics of an ideal medical officer of health and said that the office should confer dignity in order to secure a competent and efficient officer.

The Acts for the Notification of Infectious Diseases were at first local. Compulsory notification was applied to London in 1889 and, since then, had been pretty generally adopted throughout the country. This result was an example of the far-reaching effect of what was at first a local tentative measure, and also of the effect of medical influence. The chief value of the Acts was that they enabled the authorities to wage war with the causes of infectious diseases. Notification was only useful as a means to an end, and its usefulness depended on our knowledge of the causes. In small-pox cases, the authorities could enforce the existing laws as to vaccination, provide for re-vaccination, and make provision for the segregation of patients. In cases of typhus, arrangements could be made for the isolation of patients, and for sanitation to be carried out in the infected districts. In scarlet fever and diphtheria local inquiries could be made, school attendance limited, and hospital accommodation provided. Notification afforded the authorities early and complete information of the rise of an epidemic, enabled them to use the powers of the Public Health Act; drainage could be attended to, schools controlled, and food and water supplies dealt with. Notification could not produce any results except where there was a good sanitary authority, an efficient medical officer of health, and good hospital accommodation for isolating patients.

Twenty-five years ago there were hardly any epidemic or isolation hospitals. In London there were only the Small-pox Hospital at Highgate and the Fever Hospital in the Liverpool Road. This was altered by the Metropolitan Poor Act of 1867—an Act largely due to the work of several members of the British Medical Association—and isolation hospitals began to be established. Before long, said Dr. Seaton, there will be no large town without its isolation hospital for infectious diseases. By a wise provision these hospitals were made free to all classes. If the order of the relieving officer had been made a badge of admission, it would have prevented many patients from applying to them. In London, the Metropolitan Asylums Board was the authority for providing isolation hospitals. The position of this Board was largely altered by the institution of County Councils in 1888. It was intended that the County Councils should eventually become the chief sanitary authorities, and no doubt they would in time. In the meantime, they might take up that part of sanitary work which related to the establishment of isolation hospitals.

Dr. Seaton thought the work of the Metropolitan Asylums Board might with advantage be transferred to the London County Council; we should thus have one sanitary authority instead of two. County Councils might, he thought, take up that part of sanitary work which was best vested in central authorities; there need be no interference with the principle of local self-government. There was not much to be said with regard to future sanitary legislation. Isolation arrangements should be transferred from the Poor-Law to the Health authorities. Any further evolution ought to be in the direction of greater simplicity and uniformity in the size of administrative districts and the methods of administration. In some of the small districts at present a medical officer of health only received ten pounds a year. Still he did not advocate the mapping out of the whole country into districts of uniform size, for cast-iron rules were bad.

The meeting concluded with the usual votes of thanks. Next year the Association is to meet at Nottingham. The Bournemouth gathering has been on the whole highly successful. Doctors and townspeople have been both hospitable and courteous to the numerous members and visitors—about eight hundred in all—gathered from all parts. It is to be regretted, however, that complaints have been made of discourtesy on the part of some of the permanent paid officials of the Association.

Beer versus Wine.—An investigation was recently made in Munich to ascertain the effects upon the health of excessive beer-drinking. The men and women who keep beer places in Munich, as the heaviest beer consumers in the world, were the subjects of such a medical investigation last spring. The average lifetime of persons in Munich who pass the twentieth year in good health is fifty-three years. The average lifetime for proprietors of beer saloons, is 51.35; proprietresses of beer saloons, 51.95; brewers, 42.33. In the same city inquiry has shown that the male proprietors of wine-rooms live but forty-nine years, and women who keep wine-rooms but forty-seven.

Correspondence.

FEVER AND QUININE.

To the Editor of the Medical Record.

SIR: In the MEDICAL RECORD for July 18, 1891, Dr. W. A. Plecker, of Glasgow, Va., does me the honor to differ with me in diagnosis under the title of "An Unnamed Fever of the South," but he does not seem to have done me the prior honor of carefully reading my article. Except in three or four instances, the histories of his cases were not comparable to those of mine.

Returning the favor of Dr. Plecker, I would respectfully submit that his fever was probably rightly christened malaria, by the one-half of the Birmingham, Ala., Medical Society. The authors do not speak of a continued malarial fever, and there may be no such disease, but this remains to be demonstrated by Southern country authors, not by men who live in cities, especially not by authors living in New York and Philadelphia, the hitherto *fons et origo* of medical publications. As has been well said, the chapter on fever needs rewriting, and I would add, that a portion of the chapter on quinine also needs rewriting, especially as to how and when to give quinine. In my judgement the best authority on the therapeusis of quinine was the late Professor O. F. Manson, of Richmond, Va., but for thirty years a country practitioner in North Carolina. I think that he taught that the best time in which to give quinine was after twelve o'clock midnight, when it would act with more certainty, and a less dose would be required. He did not use sedative doses of quinine, twenty grains, and probably did not resort to it in diagnosis. Neither, of course, did he claim that quinine would invariably cure malaria—nor if fever, a symptom, was affected by its use, that the disease was necessarily of malarial origin, and *vice versa*.

The disease which I reported some time since is not confined to the country, but has of late years puzzled the doctors in nomenclature in Buffalo, N. Y., and if we know with certainty that it takes twenty-four hours of a continuous warm temperature to generate malaria, then there was no malarial element in my cases.

THOMAS R. EVANS, M.D.

ZIGG, MO.

ANOTHER SIDE TO THE "MATERNAL IMPRESSIONS" QUESTION.

To the Editor of the Medical Record.

SIR: In the MEDICAL RECORD of July 11th is an article relating to the "Influence of Maternal Impressions upon the Fœtus." The article is very interesting, and much less vague than most articles of its class. However, as I happen to be in partial sympathy with the "coincidence man," I wish to help him a little, but without any animosity toward the "maternal impression" devotee.

According to the views expressed in this article, an impression, in order to so act upon the fœtus as to produce any unusual effect, must occupy the mind of the mother for quite a length of time. She seems to brood over it as a trouble, and occupies her mind with it for a considerable length of time. Otherwise, every fright or bad impression might work harm by stamping the fœtus with all manner of monstrous features. Supposing this to be true, how is it that maternal impressions can be carried into effect in the lower animals? In the spring of 1890, I saw, within one month's time, three pigs that showed either an arrest of development or influence of maternal impressions. One pig had no anal orifice, the fæces being evacuated through the vulva. Another had but one hind limb, with absolutely no sign of any thigh or leg on the opposite side. The third had no ears and no aural apertures. These pigs were owned on three separate farms. None of them had a common parentage. There were no pigs of this description in the vicinity previous to these being dropped. The sows in their slumbers must have had visions of strangely imperfect pigs, thus causing their offspring to be born with such glaring imperfections. I can account for the "impressions" in no other way.

In March, 1888, I saw a colt with a partial hare-lip. The mare had, previous to the time of foaling, been worked by a man having a hare-lip. Perhaps that explained the hare-lip on the colt.

If "maternal impressions" are so potent, can we not attribute change of species to "influence of maternal impressions," thus giving the disciples of Darwin a clue to the missing link? E. H. SMITH, M. D.

SANTA CLARA, CAL.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 2, 1891, to August 8, 1891.

SKINNER, JOHN O., Captain and Assistant Surgeon. Assigned to duty at Fort Clark, Tex.

GIRARD, ALFRED C., Major and Surgeon. Relieved from duty at Fort Niagara, N. Y., and ordered to Fort Sheridan, Ill., for duty.

BRADLEY, ALFRED E., First Lieutenant and Assistant Surgeon. Granted leave of absence for thirty days.

KNEEDLER, WILLIAM L., Assistant Surgeon. The leave of absence granted him is extended one month.

Official List of Changes in the Medical Corps of the United States Navy for the week ending August 8, 1891.

MARMION, R. A., Surgeon. Detached from Navy Yard, Norfolk, and ordered to the Navy Yard, Boston.

WINSLOW, G. F., Surgeon. Detached from Marine Rendezvous, Boston, and ordered to the Navy Yard, Norfolk, Va.

PARKER, J. B., Surgeon. Detached from Navy Yard, Boston, and placed on waiting orders.

BRAITHWAITE, F. G., Assistant Surgeon. Ordered to receiving-ship Wabash, at Navy Yard, Boston.

URIC, J. B., Assistant Surgeon. Detached from receiving-ship Wabash and ordered to the Marine Rendezvous, Boston.

CORDEIRO, F. J. B., Passed Assistant Surgeon. Detached from Naval Hospital, Chelsea, Mass., and granted two months' leave of absence.

PICKERELL, G. McC, Passed Assistant Surgeon. Detached from Naval Hospital, New York, and ordered to Naval Hospital, Chelsea, Mass.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 8, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	31	8
Scarlet fever	88	25
Cerebro-spinal meningitis	0	1
Measles	91	8
Diphtheria	69	19
Small-pox	0	0
Varicella	1	0
Pertussis	2	3
Erysipelas	0	0
Mumps	0	0
Rötheln	0	0

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Original Articles.

THE PATHOLOGY OF THE ECLAMPSIA AND ALBUMINURIA OF PREGNANCY.[1]

BY R. VAN SANTVOORD, M.D.,

NEW YORK.

A VERY exceptional opportunity for following a case of albuminuria, with eclamptic and other nervous symptoms, through two successive pregnancies, enabled me to make certain observations of interest in regard to the correlation existing between the renal and nervous phenomena. It has seemed to me that a summary of the present views held in regard to the subject, and a study of this case in the light of the opinions of others and of certain less complete observations of my own, might profitably engage the attention of the Academy.

It is generally recognized that albuminuria in pregnant women may be due to any of the various causes which give rise to it in non-pregnant individuals. Pregnant women may have chronic Bright's disease, acute Bright's disease of infectious origin, cardiac lesions, etc. Yet there can be no doubt that pregnancy itself in some way is a cause of a large number of albuminurias and attendant nervous phenomena. In individual cases, however, especially when nothing is known of the previous history of the patient, it is often difficult or impossible to determine whether or not an existing albuminuria is dependent upon the pregnancy, upon pre-existing disease, or intercurrent complication. In the case about to be cited, my professional acquaintance with the patient for years before pregnancy, the development of albuminuria under observation during two successive pregnancies, and its disappearance shortly after delivery, with return of the patient to good general health, prove conclusively that it was a typical case of albuminuria due to pregnancy.

The fact that albuminuria and its associated phenomena are most often met with in primiparæ and twin pregnancies, gave rise to the supposition that they were due in some way to mechanical causes. The lesion found post mortem in the kidneys, in the majority of cases in which any marked lesion was present, has been parenchymatous degeneration with no involvement of the interstitial tissue. Where other changes have been found, it has been argued with much plausibility that they are due to something besides pregnancy (Bartels). Experimentally, it has been shown that such a lesion may be caused by marked temporary obstruction of the renal veins, complete or partial temporary obstruction of the renal arteries, and by tying the ureters. Direct pressure on the renal veins by the pregnant uterus was the earliest proposed explanation. Bartels, however, has shown this to be anatomically impossible, and Cohnheim calls attention to the fact that usually the kidneys in this affection are markedly anæmic, and show no evidence of venous congestion. To these objections it is answered that the general increase in abdominal pressure may be sufficient without direct pressure of the uterus on the veins, and that, as autopsies are usually obtained only after the uterus has been emptied of its contents, the venous congestion may have disappeared (Rosenstein). Albuminuria has, however, been observed to develop during the early months of pregnancy, and not infrequently disappears before delivery. This theory, therefore, seems to be as lacking in probability as it is in anatomical proof of its correctness. The same, I think, may be said of the supposition that the increased abdominal pressure may be sufficient to cause anæmia of the kidney by direct compression of the organ (Senator). A third theory, viz., that of temporary anæmia caused by arterial spasm, will be discussed later.

Halbertsma[1] is convinced that more or less complete suppression of the urine, due to compression of the ureters at the pelvic brim, especially during labor, by the pregnant uterus, causes albuminuria and eclampsia, and he appeals to Söhlein's[2] observations in 32 autopsies of women dying after puerperal eclampsia. In 8 of these cases, dilatation of one or both ureters was found above the pelvic brim, no cause for which was obvious at time of autopsy (made after delivery), and all of which seemed referable to uterine compression. In 123 non-eclamptic women dying before, during, or after labor, in 4 only was there any dilatation of the ureters, and in 3 of these there was sufficient cause found either in old processes or recent pelvic exudation. Cohnheim objects to this theory, that in the great majority of cases no dilatation of the ureters and no œdema of the kidneys is found post mortem. Söhlein himself says that in all of his 8 cases some pathological changes in addition to those of the ureters were found, especially in the urinary organs, such as are frequently the only pathological changes in patients dying of eclampsia. He concludes that when an already insufficient excretion of urine from the kidneys exists, a new hinderance or interruption of the secretion of urine, due to the compression of the ureters, may give rise to uræmic symptoms or prolong those already in existence. This conclusion seems reasonable. A case recorded by Fleischlein[3] in which, while both kidneys were fatty, that on the side of a dilated ureter was most affected, is in accordance with this idea, that compression of the ureters may be a factor in the causation of the lesion under discussion in some cases, but exceptional and of minor importance.

Still another possible mechanical cause of renal congestion and albuminuria is spoken of by Senator,[4] viz., the interference with the pulmonary circulation by the pressing upward of the diaphragm. That this factor may have some effect cannot be denied, but that this is the main cause of a malady which differs widely in its clinical course and post-mortem lesions from what is known to follow obstructed circulation through the thoracic viscera in other connections, is not claimed by him.

The great interest attached to the study of this form of albuminuria lies in its intimate association with eclampsia. For some writers, Carl Braun,[5] for instance, eclampsia, occurring during pregnancy, labor, or after labor, is simply uræmia, dependent upon renal insufficiency due to acute parenchymatous nephritis. The unsatisfactory nature of the attempts to explain this nephritis on purely mechanical grounds has been commented upon above. Certain other objections to their acceptance will be offered in the discussion of the relation between the disturbance of the renal function and eclampsia.

A great objection to the uræmic theory of puerperal

[1] Read before the New York Academy of Medicine, June 4, 1891.

[1] Transactions of International Congress, 1881, iv., 394.
[2] Zeitschr. für Geburtsh. u. Gynäcologie, 1879, p. 88.
[3] Die Albuminurie in physiologischer und klinischer Beziehung, etc., p. 135. Berlin, 1890.
[4] Zeitschr. f. Geb. u. Gyn., viii., p. 354.
[5] Ibid., Bd. viii.

eclampsia has been found in the fact that a very considerable number of cases have been recorded in which no albuminaria has been present before the occurrence of convulsions, and no grave renal lesions have been found post mortem. These are too numerous, and vouched for by too good authority, to be ascribed to imperfect observation. This unquestionable fact has led many writers, among them Nothnagel, to divide the cases into two categories, the uræmic and the non-uræmic, acute epileptic or eclamptic proper, the latter being supposed to be caused by reflex influences. An essential unity has however been insisted upon by many writers, one group regarding all the cases as of uræmic or toxæmic origin, the other regarding all as reflex. Among the latter, Osthoff [1] may be selected as the sturdiest supporter of the theory. He concludes that the essential cause of all forms of renal lesions and eclampsia occurring during pregnancy, labor, or after labor, is an unusually strong innervation of the splanchnics which results from the movements of the uterus in all stages of its growth and involution, and which extends itself to the vaso-constrictors of the kidneys, causing anæmia and degeneration, or to the vasomotors of the medulla, causing convulsions, sometimes without previous affections of the kidneys. Convulsions occurring in other forms of nephritis he regards as reflex from the kidneys.

In support of this view he cites a case of his own in which, shortly after a first pregnancy, œdema, convulsions, albuminuria, and abortion were said to have occurred. Osthoff watched her through two succeeding later pregnancies, during which she had numerous and violent epileptiform convulsions, but during which the urine was never deficient in quantity, never contained casts, and never albumin, except shortly after delivery. She had obscure vision and high-tension pulse.

The fact that eclampsia occurs with greatest frequency during labor, when reflex excitation is greatest, and that albuminuria occurring, according to various observers, in a percentage of only five downward in pregnant women, is observed in percentages of from seventeen upward immediately after delivery, speaks very strongly, he thinks, for this theory. In support of the same, Santos [2] suggests, in addition to the above, the predominant frequency of eclampsia in primiparæ, twin pregnancies, and in women at full term in whom the uterine nerves are probably most compressed, labors artificially ended, young subjects in whom reflexes are more active than in older persons, and the quick disappearance of the albuminuria after the uterus is emptied. The reason why these reflex influences produce such effects only in a limited number of individuals is to be sought, he thinks, in the neurotic character of those who are affected.

Osthoff, in addition to the above considerations, points to the fact that drugs, such as pilocarpine and the nitrites, which cause arterial relaxation also have a controlling influence over so-called anæmic symptoms, the idea that the elimination of toxic substances through the sweating caused by the first-mentioned drug is of importance, being rejected by him. The controlling effect of chloroform, chloral, and morphia, he thinks, points to the same conclusion.

There are certain details of this theory which are worthy of consideration. According to Traube, convulsions during pregnancy, and in Bright's disease generally, are caused by anæmia of the brain due to cerebral œdema, which is brought about by hydræmia and high arterial tension, not being directly due to the kidney disease at all. This explanation is adhered to by Rosenstein. Although on post-mortem examination in cases of eclampsia, the brain has been found anæmic and œdematous more often than in any other condition, yet it has been also found congested, etc., as Cohnheim insists, without any obvious pathological change.[3] It seems, therefore, most plausible to regard the œdema or congestion, when present, as due to the convulsions, the variety in the brain conditions found on autopsy depending on the length of time elapsing between the convulsions and death, and the varying conditions of the heart and respiratory organs in different cases. It is, I think, now regarded as probable by most pathologists that, as the reflex theory supposes, the immediate exciting cause of epileptical convulsions is anæmia of the motor centres due to arterial contraction. To a slighter but more general and constant arterial contraction of reflex origin is attributed by Osthoff the high arterial tension of the malady. After labor it not infrequently happens that no urine reaches the bladder for several hours. During eclamptic attacks little or no urine is secreted (Cohnheim). These phenomena seem best explained by supposing a more or less prolonged contraction of the renal arteries to take place. Cohnheim [1] calls attention to the fact that the renal changes found after death from eclampsia are often very slight, or altogether wanting. He attributes the eclamptic seizure to the holding back in the blood of the urinary constituents by cramps of the renal arteries.

After delivery albumin is found temporarily in a large percentage of women. Among 600 cases Santos [2] found albumin in 356, or 59.33 per cent., the urine being drawn by catheter, and tested by boiling and Heller's test. The percentage found by other observers is much less (see Osthoff), but the fact seems to be well established. It may be plausibly argued that this albuminuria results from deranged nutrition of the kidney due to vascular cramps. It may be likened to the phenomena of dead and cyanotic fingers in Raynaud's disease, the less marked of which, viz., the dead fingers, is, according to Dieulafoy, common in Bright's disease. Whatever view may be taken of the etiology of the actual necrosis in this malady, these transitory phenomena seem best explained by arterial contraction. Drs. Coleman and Taylor,[3] during these attacks of cyanosis in a case of Raynaud's disease, found coloration and breaking down of blood-corpuscles, and coloration of the liquor sanguinis in blood drawn from the affected fingers. This looks like demonstration that vascular cramps may be sufficient to cause grave changes in nutrition, and supports the assumption that vascular cramps may be sufficient to produce alterations in the renal tissue such as have been produced by experimental temporary lessening or shutting off of the blood-supply from those organs.

If, then, we grant that arterial contraction is probably the immediate cause of the cerebral anæmia inducing eclampsia, and that it is also the cause of the aneuria during convulsions and labor, and sometimes of disturbance of renal nutrition sufficient to allow albumin to pass through the glomerular vessels in recognizable quantities; granting also that reflex or emotional causes may in exceptional cases, in the pregnant as in the non-pregnant adult (Nothnagel) cause epileptoid convulsions; do all the known facts warrant us in accepting this theory of reflex origin as applicable to the great majority of cases?

To this I must answer no, and it is because the case about to be cited strongly supports another view of the subject, that I have ventured to bring it before you. There is a group of writers who still adhere to the old view, that puerperal eclampsia is essentially toxic in its origin. While the renal incompetence due to a parenchymatous nephritis is of course a matter of great importance, the essential element of the disease is to be regarded as a toxæmia which itself is the cause of the nephritis, and which may become so intense that even normal kidneys may not be able to eliminate the poison with rapidity enough to prevent grave results.

In 1847 Virchow pointed out that changes were found, both in the liver and the spleen, in women who died of

[1] Volkmann's Samml. klin. Vorträge, No. 266.
[2] Arch. f. Gynäcol., xxxii., 3, p. 364. 1888.
[3] Carter (Uræmia, Lancet, vii., 1888), in two patients who died of uræmic convulsions, found the percentage of water in the brain normal.

[1] Allgem. Pathol., vol. ii., p 469, second edition.
[2] Arch. für Gynäcologie, vol. xxxii.
[3] Lancet, 1890, vol. i., p. 967.

puerperal eclampsia, and expressed the opinion that attention had been devoted too exclusively to the kidneys in the study of this affection.[1] This suggestion has been greatly elaborated by Rivière, the experiments of Bouchard forming the basis of his theory.[2] Bouchard has discovered two convulsion-producing ingredients in the normal urine, one an organic substance which he has not been able to completely isolate, the other potassium and its salts. The proportion of the convulsants present in the urine of the same individual differs very much according to his varying states of health. Toxic matters are introduced into the body with the food. They are produced in the body by intestinal decomposition, by the organs of secretion (the bile especially being very toxic if not properly disposed of), by the processes of disassimilation. The system is protected from the poisons absorbed from the intestinal tract by the liver, which has experimentally been proved capable of destroying toxic alkaloids, and by the fecal evacuations. In the pregnant woman, disturbances of digestion tend to increase the amount of toxic matter capable of absorption, while the constipation commonly present, the interference with the respiratory apparatus, and the unfavorable conditions in which the kidneys are called upon to do an unusual amount of work, all tend to interfere with prompt elimination. But above all, the fatty degeneration of the liver prevents it from perfectly fulfilling its function of converting noxious matters into less harmful forms. Hence it may happen that the patient may be overwhelmed by an excess of poison before the kidneys have been appreciably irritated. This, in brief, is Rivière's auto-intoxication theory, and it is one that is held in one form or another by probably the majority of writers.

The hepatic lesions, which act a prominent part according to this theory, have recently been studied with care by Pillier [3] in eleven cases. He states that these livers varied from a bright yellow to a gutta-percha color. The liver-cells were sometimes fatty, sometimes the seat of necrotic changes similar to those found in infectious diseases. The more or less numerous spots commonly seen and regarded as ecchymoses, he found to consist, in the earliest stage, of dilatation of interlobular capillaries. Later a necrotic focus appears in the centre, and later still this necrotic portion is separated as a sequestrum by round-cell infiltration at its periphery. The theories of causation of the hepatic lesions are, 1st, the microbic; 2d, that they are due to poison generated by the patients themselves (Rivière), or to chloroform; this latter supposition being disproved by the fact that they have been found when chloroform has not been used; and 3d, mechanical—due to injury to the liver during labor. One author only, as far as I know, has found a microbe to explain the disease.[4] As his investigations were based only on examination of the urine, they must be regarded as entirely inconclusive, as the presence of a microbe in the bladder of a woman does not prove that it exists anywhere else in her body.

Another recent contribution of interest and probable importance in connection with these hepatic lesions is that of Virchow.[5] In five cases of puerperal eclampsia he found more or less extensive fatty embolism in the lungs and in the renal vessels—chiefly confined in the latter to the glomeruli. Most of these cases died with marked obstruction of the pulmonary circulation. No cerebral emboli were found. The kidneys were not much changed, the cortex being anæmic, the pyramids relatively red, the epithelium of the convoluted tubes cloudy. With these changes, the ones ordinarily found in eclampsia, he did not think the fatty embolism had anything to do. The source of the embolism he did not know. It might be the pelvic fat, in all the cases some laceration of the vagina or vaginal outlet existing. It might be the liver, fat being forced into the hepatic veins by the traumatism inflicted on that organ during convulsions and labor. The embolism did not have any causal connection with the eclampsia, but in a weak person he thought slight fatty embolism of the lungs might be enough to cause pulmonary œdema and death.

In a case seen by the writer, while in coma from which she never recovered, following a single convulsion, the thought occurred to him that the patient's condition might in part be due to the falling back of the tongue into the pharynx, and on subsequent reflection he regretted not having made a more persistent effort to relieve this possible source of danger. Virchow's observation, and this possibility, are instances of factors affecting the respiratory apparatus which might well explain differences in the condition of the brain after death.

In closing this portion of my paper I cannot refrain from briefly calling attention to the analogy which exists between the malady which we are discussing and some forms of chronic renal disease. It has occurred probably to most of us to see cases in which vascular disease or general disturbance of nutrition has been very much out of proportion to any demonstrable insufficiency of the kidneys, but in which the renal lesions and other symptoms seem to be due to a common cause. Senator says that the renal lesions in Bright's disease "have, as is now generally recognized, their origin frequently, if not always, in an abnormal condition of the blood in the most general sense, *i.e.*, in an acute or chronic dyscrasia due to faulty mixing of the normal constituents, or to the addition of foreign and toxic substances." [1]

Renal diseases associated with infectious processes are due directly or indirectly to the action of infecting organisms. In other cases the morbid blood state seems due to some disturbance of the organic functions of the body itself. There seems to be a fundamental fault of assimilation or metabolism back of the whole symptom-complex, differing, perhaps, in different cases, the exact nature of which is almost wholly unknown notwithstanding the numerous hypotheses concerning it. The process back of many cases of cirrhotic kidney we call gout, and know something about. That some similar process is back of other forms of kidney lesion involving primarily the renal parenchyma, seems probable. It may be that the faulty metabolism in these cases differs from that in the malady we are considering only in being less intense in its action, and depending on more permanent exciting causes. Some years ago I attended, toward the end of her life, a lady suffering from chronic nephritis with cardiac complications, whose kidneys were first known to be disordered twenty-five years before, during pregnancy. It seems plausible to assume that this individual had a tendency to some form of the faulty metabolism which probably lies back of renal disease, which is not due to irritants introduced from without, which was called into activity at one time by pregnancy, later by other exciting cause or causes. This may, in general, be the explanation of the not very rare cases in which chronic nephritis is said to have followed renal trouble first occurring in pregnancy.

Having thus passed in review the known facts and theories relating to the morbid conditions under discussion, I will now give a history of the case, the observation of which led me to present the subject for discussion.

The patient in question had been under my professional care, for occasional slight ailments, for some years before marriage. She suffered from slight irritability of the bladder for years, for which I was not able to find any cause. Her general health had been excellent. Her first pregnancy extended from August 1887, till May 23, 1888. Albumin was first found in her urine March 17th, nine weeks and a half before delivery; the quantity varied very much, fifty-seven per cent. of deposit being the largest amount; it disappearing entirely for a week in the early part of April. On six occasions the quantity

[1] Gesamm. Abhandlungen, p. 778.
[2] Pathogénie et Traitement de l'Auto-intoxication éclamptique, 1888.
[3] Gaz. hebdom., 1890, p. 361.
[4] Blanc: Archives de Tocologie, 1889, p. 282.
[5] Berlin. klin. Wochenschr., xxiii., 30, 1886.

[1] Die Albuminurie, etc., p. 108.

of urea passed in twenty-four hours was estimated as follows:

March 18th.—700 c.c.; specific gravity, 1.026; alk.; albumin about sixteen per cent.; urea, 20.3 grammes. Patient was taking four-drop doses of a two per cent. solution of nitro-glycerine, which caused some headache. Suffered from slight nausea and constipation.

March 20th.—420 c.c. (some lost with stool); specific gravity, 1.030; acid; albumin, eighteen per cent.; urea, 9.66 grammes + (what was lost with stool). Patient taking gtt. ij. of nitro-glycerine solution every three hours, and tincture of strophanthus, gtt. x. t.i.d. Feeling subjectively cool.

March 22d.—580 c.c. (some lost with stool); specific gravity, 1.016; acid; albumin, 57; urea, 11.89 grammes + (what was lost with stool). Patient comfortable. Taking strophanthus and nitro-glycerine as above, the latter increased to 3 gtt. doses.

March 23d.—Urine, about one pint; acid; albumin, 32; urea, about 12 grammes.

March 30th.—Urine, one and a half pint; specific gravity, 1.017½; acid, clear with Tanret's test; showed a few flocculi on standing after being boiled and treated with nitric acid; urea, 13.48 grammes. Patient had been sitting up for three days, feeling well. Stopped nitro-glycerine and strophanthus. Gave citrate of potash, gr. xv. t.i.d.

Throughout the next month the patient was comfortable, the nitro-glycerine and strophanthus being resumed, alternating with the citrate of potash. Three weeks before delivery she suffered from much backache, with pains shooting into left groin. This was lessened by the citrate of potash, and very greatly helped by salol, gr. x. t.i.d., given through a druggist's error in place of betol. The urine became black very soon under its influence, but no marked effect on the albuminuria was produced. It was noted that the urine was much less turbid than it had been before its use.

On the morning before delivery, one and one-quarter quart of urine was recorded as having been passed in twenty-four hours, containing no albumin. The delivery was uneventful, a healthy boy being born. No urine was secreted for twelve hours after delivery, as determined by the catheter. Five weeks after delivery the urine was found to be free from albumin; specific gravity, 1.018. Repeated examinations failed to show any casts in the urine, which was always turbid and showed rather more pus than the customary vaginal discharge would account for. Spots before eyes, œdema of feet and legs, slight headache, and general malaise were the symptoms most complained of. Sphygmographic tracings showed a very high tension pulse, except on one occasion, when she had felt faint after a dose of nitro-glycerine. The tracing was taken two hours after the dose, a period of time in which usually all effect of the drug, on other occasions, was found to have disappeared.

After a period of twenty-one months, during which her health had been good, patient again became pregnant, in February, 1890. Nothing abnormal occurred except a slight attack of sciatica, until August 16th, about the end of the sixth month of pregnancy, when she lost consciousness suddenly for a short time without apparent cause, being at the time away from the city. Soon after she began to suffer from headache, spots before the eyes, and some pains shooting from the loin downward and forward, as in previous pregnancy. The urine on July 21st showed a specific gravity of 1.010; acid; no albumin. When examined after her return to the city, on September 2d, albumin was found; milk diet, confinement to bed, and hot baths were given.

September 4th.—Given nitro-glycerine (two per cent. solution), gtt. ij., every three hours. Milk not being well borne, diet changed to cereals, fruit, and vegetables, with small allowance of meat once daily.

September 6th.—Feeling comfortable. Allowed to get up. Nitro-glycerine continued.

Urine for last twenty-four hours, 790 c.c. (26.7 ounces); specific gravity, 1.020; acid; faint trace of albumin; urea, 12.64 grammes. For two weeks the patient remained feeling well. On the 17th the urinary examination showed 44 ounces for twenty-four hours; specific gravity, 1.013; acid; albumin trace on boiling, adding nitric acid, and allowing it to stand for several hours. On the morning of the 20th the urine was recorded as showing 36 ounces secreted in twenty-four hours; specific gravity, 1.016; acid; no albumin. She awoke not feeling well, having been tired by a ride on the previous day, but without any local symptoms. She remained in her room all day until evening, then going down to dinner. While at the table, a few moments after a dose of nitro-glycerinë, she felt faint, lost consciousness, and had a clonic spasm during which she bit her tongue. The next day she was feeling some malaise and muscular soreness. The urine, examined sixteen hours after the attack, showed a specific gravity of 1.012. No albumin by Heller's test, and only a faint opacity on standing after being boiled and acidulated with nitric acid. She was kept in bed and tincture of digitalis added to the nitro-glycerine, which was still continued. The following day (the 22d) the urine contained sixteen per cent. of albumin. She had shooting pains in the left groin, aching in small of back on left side, nausea during pain. No headache. Slight veil before eyes. Feet not swollen since treatment commenced. To-day mentions that she had suffered from a peculiar nervous feeling behind her knees and a tendency to twitch for some months. Salol, gr. x. t.i.d., added to the nitro-glycerine and digitalis.

September 24th.—Salol reduced to gr. v. t.i.d., on account of carboluria. In afternoon suffered from sharp twinges in the bladder, for which spiritus ætheris nitrosi was given with atropia, gr. $\frac{1}{150}$, in addition to the above, under which the vesical symptoms subsided.

For three successive days at this period the urea passed was estimated as follows: Urine of 24th to 25th, 27 ounces (798.5 c.c.); specific gravity, 1.016; acid; albumin, .03; urea, 8.778 grammes. 25th to 26th, 42 ounces (1,272 c.c.); specific gravity, 1.008; acid; albumin, .075; urea, 8.694. 26th to 27th, 25 ounces + (some lost with stool); specific gravity, 1.020; acid; albumin, .10; urea, 11.18.

On the 27th patient very comfortable. Salol was stopped and nitro-glycerine solution, gtt. ij. every three hours, tincture of digitalis, gtt. x., and spiritus ætheris nitrosi, ʒ j. t.i.d., continued. Urine of September 28th to 29th showed 40 ounces (1,183 c.c.) quantity; specific gravity, 1.015; albumin, .02; urea, 13.57 grammes.

October 5th to 6th.—Urine, 58 ounces (1,715 c.c.); specific gravity, 1.012; acid; no albumin; urea, 15.437 grammes. The albumin had disappeared on the 2d, Heller's test being relied on, and did not reappear until the 18th, the urine varying in the meantime from 42 to 66 ounces under the influence of the nitro-glycerine, digitalis, and sweet spirits of nitre. The patient during this time was sitting up and comfortable, complaining, however, of sight so dim that she could not see to read with comfort, and nervous feelings in her legs.

October 18th.—Ophthalmoscopic examination negative. Tired feeling in back and pain in left groin. Urine, 18th to 19th, 42 ounces (1,242 c.c.); specific gravity, 1.013; acid; albumin, 3.726 grammes (Esbarle's method); urea, 13.63 grammes. Patient noticed that when nitro-glycerine was given, even in a dose of one drop of the two per cent. solution, at the same time with the spirits of nitre and digitalis, disagreeable throbbing sensations were felt all over the body lasting half an hour, no such prolonged effect following two drops of the nitro-glycerine solution when given alone. On this account only half a drop was given when its administration happened to coincide with that of the other drug. Increase of the spiritus ætheris nitrosi to one drachm every three hours, and a short confinement to bed, was followed by disappearance of pain and albumin, none of the latter being

present from October 21st to November 1st, the urine varying in quantity from 24 ounces (one day only) to 44 ounces, the specific gravity remaining somewhat low for the quantity passed.

November 1st.—Had passed 40 ounces (1,330.77 c.c.) of acid urine, containing albumin ½ gramme to the 1,000, and 14.185 grammes of urea. October 30th to 31st, only 24 ounces of urine had been passed, apparently because a new specimen of nitre was not as strong as one previously used. Face and hands were slightly puffy, and feet were swollen. Spirits of nitre, 1½ drachm t.i.d., digitalis and nitro-glycerine as before. From this date to her delivery, on November 15th, the urine fluctuated from 36 to 48 ounces, sometimes free from albumin, according to Heller's test, sometimes containing a little.

On November 24th 45 ounces (1,330.17 c.c.) were passed; specific gravity, .014⅛; acid; albumin, none by Heller's test—two per cent. on standing when tested by heat and nitric acid; urea, 13.97 grammes.

A healthy nine and three-fourths pound boy was born; painful cramps in the right thigh, rendering chloroform necessary toward the last, being the only complication. Presentation L. O. Q. No urine was passed for eighteen hours after delivery; an attempt made with the catheter by the nurse after twelve hours showed the bladder to be empty. All drugs were stopped except spirits of nitre. Three days after delivery, when large quantities of urine were being passed, 3.2 grammes of albumin per 1,000 were found. Its absence was not again noted until eleven days after delivery, and the quantities being much more than accidental contamination by the lochia would account for (.5 to 4.3 grammes per 1,000).

December 5th.—Urine fell off in quantity after an attack of indigestion, and albumin, 3 grammes per 1,000, was found. None was ever found again after the 13th. The confinement was followed by a prolonged subacute cystitis, which had probably antedated it. Repeated microscopic examinations, made before and after delivery, showed pus more than could be accounted for by vaginal discharge, and often a little blood, which may have come from hæmorrhoids, but no casts. The urine was always turbid when it reached me. On reviewing the case I was led to conclude that the cystitis had existed in a mild form during, and probably before, pregnancy, being of a variety which, I believe, is caused by slight vesical atony and spontaneous bacterial infection of the bladder.[1] Inasmuch as the urine did not contain albumin after delivery, at times when the patient was suffering considerably from her bladder, and as much pus as had ever been noted in it was present, the complicating cystitis was probably responsible only for the vesical pain suffered by the patient and some of the pus found in the urine. The pain in the loin and groin suggested a possible pyelitis, but such pains have been noticed in other cases of the renal disease of pregnancy.

On December 14th to 15th, one month after delivery, the urine was found to be as follows: Quantity, 1,300 c.c. (43.95 ounces); specific gravity, 1.018; albumin, none (Heller); urea, 24.7 grammes; no diuretic being taken.

March 26th to 27th.—Urine, 1,125 c.c. (38 ounces) +, some lost estimated at 10 ounces; specific gravity, 1.021½; alkaline; urea, 19.125 grammes +, that of the quantity lost.

April 14 to 15, 1891.—Quantity, 1,355 c.c. (48.04 ounces); specific gravity, 1.014½; strongly alkaline; no albumin; urea, 18.2925 grammes. In this latter specimen some of the urea had probably been lost by decomposition before examination. The patient's vision cleared up steadily after confinement, and she is now in fair health except from some residual vesical trouble.

On looking for the cause of the disease in this case, I think it evident that the only purely mechanical factor which, in the above review, was found to have any foundation on observed facts, viz., compression of the ureters, can be excluded because the kidneys throughout reacted readily to diuretics, the absence of mechanical obstruction to the discharge of urine being thus proven, and because the constitutional symptoms of the case were most marked long before labor, which is the time when this factor, if present, is apt to be most prominent. For a similar reason the reflex theory is inapplicable. The one undoubted eclamptic seizure which the patient had occurred almost two months before labor, with no obvious reflex cause. This was all the more striking because the patient suffered from sciatica during pregnancy, and during her second pregnancy suffered extremely from pressure upon the sacral plexus. Wernicke[1] called attention to a group of cases in which he regarded eclampsia as being due to the establishment of an epileptogenous zone, caused by pressure upon the sacral plexus. Here we had such pressure-symptoms, but no coincidence between pressure-symptoms and eclampsia and other nervous phenomena.

We are forced, finally, to consider the applicability of some form of the toxæmic theory in explanation of the case, and the question arises, Were the various nervous symptoms noted due to a primary nephritis, with secondary toxæmia due to insufficiency of the kidneys? The freedom of the patient before, after, and during the earlier portion of both pregnancies from any symptoms, or indications, from the examination of the urine, of chronic kidney disease, the facts that casts were never present, that the amount of albumin when present was usually small, and that the kidneys always readily reacted to a comparatively feeble diuretic, all go to show that the renal involvement was never very extensive. It is, however, to the condition of affairs immediately preceding and following the one undoubted eclamptic seizure that I especially call attention. During the ten days prior to this seizure the urine had been examined four times, its quantity varying from 34 to 44 ounces. On two of these occasions a faint cloudiness was noted on standing after boiling and acidulating with nitric acid; on all Heller's test gave only a negative result. The urine measured for twenty-four hours, up to a time within ten hours of the seizure, showed 36 ounces, a specific gravity of 1.016, acid, and contained no albumin. Here was no evidence whatever of renal disease or renal insufficiency, yet a distinct convulsion occurs without obvious external exciting cause, and preceded only by a feeling of malaise, attributed to having been over-tired on the day previous. The urine passed about sixteen hours after the attack was found to be slightly opaque on standing, after being boiled and acidulated with nitric acid; Heller's test was negative. The second day after the attack the urine contained a deposit of sixteen per cent. of albumin; on the third day, twenty-four per cent.; the albumin again disappearing temporarily on the twelfth day following the convulsion.

Throughout the last three months of this pregnancy, even when the patient was passing large amounts of urine of fair specific gravity, amounting on some days to over sixty ounces, and often free from albumin, the obscureness of vision never left her, and ill-defined nervous symptoms developed whenever the stenosis lessened from any cause. The whole impression of the case was that of a toxæmia, back and wholly independent of renal lesion or insufficiency. Before discussing the nature of this toxæmia, I wish to call attention to details of the albuminuria following the convulsion. Convulsions themselves, have, by not a few writers, been regarded as the cause of albuminuria following them, and even of actual nephritis. If we turn now to Huppert's[2] observations in regard to albuminuria after epilepsy, we find that it was most marked in the urine secreted during the attack, *i.e.*, not necessarily in the urine passed immediately after a convulsion, as that may have been previously secreted. The amount in the great majority of cases was so small that it could be recognized only as a slight opacity after boil-

[1] New York MEDICAL RECORD, May 22, 1891.

[1] Berliner klin. Wochensch., 1872, No. 43.

[2] Virchow's Archiv, Bd. 59, Heft 3, 4.

ing and acidulating with nitric acid and allowing the urine to stand for some hours. The failure of other observers to find albuminuria after convulsions he attributed to their not employing sufficiently delicate tests. Larger amounts of albumin, and even hyaline casts, rarely with blood or epithelium on them, were found after groups of fits in epileptics frequently affected. The casts were usually found only in urine passed about three-quarters of an hour after an attack.

Now in the case under discussion albuminuria followed the convulsion, but the first urine examined after its occurrence, containing only a trace on standing, was passed sixteen hours after the convulsion, larger quantities being found later. Had there been no knowledge of a preceding albuminuria, the fact of a gradual increase in that symptom for several days would have been enough to have negatived the idea of the convulsion as a cause of the albuminuria, the albuminuria due to convulsions being, as above stated, greatest immediately after the fit and disappearing in a few hours. That convulsions can give rise to actual nephritis is a wholly unproved assertion.

To return to the question of the nature of the autotoxæmia in this case, I wish now to point out the bearing of the excretion of urea on the point at issue. On every occasion but one the amount was much below normal. Urea may fail to appear in the urine in normal amount, either because it is not formed in normal quantity or because the kidneys are insufficient. During the first pregnancy six estimates of the quantity passed in twenty-four hours were made, the hypobromite of soda test with the apparatus devised by Dr. C. A. Doremus being used. On one occasion 20.3 grammes were found, a quantity possibly not abnormal. The other five varied from 9.66 grammes +, a little lost with stool, to 13.48 grammes. On all these occasions the urine was considerably below normal in quantity and contained varying percentages of albumin. It might well be questioned, therefore, whether or not the failure to excrete a normal amount of urea may not in this sense have been due to renal insufficiency. The same may be said of other similar cases that I have found reported by Bartels [1] and Herman.[2] In the second pregnancy it was otherwise; nine observations were made, the urea excreted varying from 8.69 grammes to 15.43 grammes. In six of these the quantity of urine was forty ounces or over. In one there was no albumin in the urine; an occasion on which 58 ounces were passed in twenty-four hours, containing 15.43 grammes of urea; in none was it large. The smallest amount of urea excreted in this group was 8.69 grammes. The inference may, I think, be fairly drawn that the amount or urine being normal or above normal, and there being, as above stated, no proof of serious lesion of the kidneys, the excretion of urea was abnormally small, because only an abnormally small quantity was found in the body.

This inference cannot of course be considered as proven in the absence of analysis of the blood. The observation of Semmola,[3] however, that in chronic Bright's disease less urea is found than normally, *i.e.*, that not only is less urea eliminated by the kidneys, but in patients not in an uræmic condition less is found in the blood, adds plausibility to my interpretation of the facts above given.

In my case the lesion present was almost certainly a minor grade of the parenchymatous degeneration characteristic of the renal disease of pregnancy. The comparatively trifling amount and frequent absence of albumin present in the urine was, therefore, more indicative of a correspondingly slight renal lesion than would have been the case had it been a question of a chronic process largely interstitial. Parenchymatous nephritis pretty certainly does not occur without albuminuria. A possible weak point of the case is that the specific gravity of the urine remained slightly below what it normally should have been for the quantity passed, but that the failure of urea, one of the most soluble urinary constituents, to pass through substantially normal kidneys, was the cause of this does not seem probable. On looking for the cause of this probable diminished formation of urea, allowance must of course be made for the restriction as to albuminous food, meat being allowed only at one meal. As the patient ate fairly well throughout her sickness, this limitation was pretty certainly not the cause of a diminution in quantity of urea varying from a little over one-quarter to about two-thirds of what may be assumed to be the normal amount for this person based on the amount passed after recovery.[1] One observer estimates that pregnant women eliminate from 30 to 35 grammes of urea in place of 22 to 24; but Kleinwächter found the amount of urea in one hundred and seventy-nine examinations of lying-in women very nearly normal. The supposition, therefore, seems allowable that the nitrogeneous waste of this patient was not being as completely converted into urea as it should have been, but that it circulated through the body in forms which have been proved by modern research to be decidedly toxic.

In a second case of my own, about ten grammes of urea were found when the patient was passing about one and a half pint of urine containing albumin and casts, mostly hyaline. After the urine had been increased in quantity under acetate of potash, digitalis, and nitro-glycerine, the headache and nervous symptoms passed away. Two examinations of the urine then resulted as follows: Quantity in twenty-four hours, 1,340 c.c.; specific gravity, 1.014; alkaline; albumin, 1.3 gramme per 1,000; urea, 12.06 grammes. Quantity in twenty-four hours, 1,650 c.c.; specific gravity, 1.014½; albumin, 1.2 gramme per 1,000; urea, 14.9 grammes.

This case unfortunately died shortly after a difficult forceps delivery, apparently from internal hemorrhage starting in the left broad ligament. As far as it goes it sustains the views above advocated.

As it has been proven that in grave diseases of the liver the formation of urea is very much lessened, being completely abolished in acute yellow atrophy of that organ,[2] the probability of hepatic insufficiency being the important factor in the disease is evident. As to the causes of the hepatic changes, we may suppose them to be due to excessive work thrown on the organ from its having to act upon the waste of both mother and fœtus—though in this connection the fact that the fœtus also has a liver ought not to be forgotten—to circulatory disturbances, or to those combined with an abnormal vulnerability of the organ; but these are mere suppositions. The fact remains that the liver presents pathological changes. The bearing of the views and observations above given upon practice may be briefly stated as follows:

The periodical examination of the urine for albumin, while important, may fail to give sufficiently early notice of coming danger. The necessity of reporting any of the various nervous symptoms which might be due to toxæmia should be impressed upon some reliable person associated with the patient, as the subjects of this form of disease are apt to be apathetic about their own condition. The estimation of the amount of urea being passed is probably a more valuable index of the real danger of the patient than the presence or estimate of the quantity of albumin in the urine. The necessity of limiting the amount of nitrogeneous food, when an exclusive milk diet is not tolerated, and the possibility of limiting by intestinal antisepsis the amount of poison generated, are the only points of treatment not currently recognized in the text-books which this view of the subject brings forward. It is obvious that elimination can be more successfully effected if the disease is recognized before the kidneys are damaged.

106 West 122d Street.

[1] Ziemssen's Handbuch.

[2] Transactions of the Obstetric Society of London, 1887, British Medical Journal, 1890, p. 130.

[3] Quoted by Delafield, Sajou's Annual, 1888, i., 480.

[1] Quinquaud: Essai sur le puerp. infectieux, 1872. (Quoted by Herman.)

[2] Murchison: Functional Derangements of the Liver.

RECTO-ABDOMINAL FISTULA FOLLOWING LAPAROTOMY, TREATED SATISFACTORILY BY IMPROVED DOUBLE-CURRENT IRRIGATION.[1]

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In general, extensive sinuses with pus-secreting walls are best drained by perforated soft-rubber tubes, as they are sometimes tortuous, and hard instruments cannot be introduced along their whole extent. Into the perforations the morbid secretions find their way and drain off, and when irrigation is necessary the diseased tissues which impinge against the openings are bathed by appropriate solutions, which when forced in at one end of the tube flow out at the other. But it is not always possible to have a counter-opening, then the drainage and irrigation of sinuses and pus-cavities by the use of soft-rubber tubes becomes an interesting problem. I have obtained very gratifying results with soft-rubber tubes in irrigating and draining the vagina and bladder in cases of urinary fistula,[2] and my treatment in the following interesting case of recto-abdominal fistula illustrates what can be done in long, tortuous sinuses where no counter opening exists.

Fig. 1.—Author's 60°-angle Punch.

Case I.—Mrs. D——, aged forty-seven, married and the mother of one child, was operated on in one of the city hospitals for the removal of both of her ovaries, several months before consulting me. She presented herself at my office in January, 1889, suffering from an abundant and offensive discharge of pus, fecal matter and gas, issuing from an opening large enough to admit the tip of the index finger, in the cicatrix of a median abdominal incision. For a radius of two inches the surrounding skin was red, eroded and very tender. On introducing a probe into the opening, and with the index finger in the vagina, the end of the former could be followed up by the sense of touch through the thick indurated wall of a sinus for five and one-half inches, along the right side of the uterus into the pelvis.

The patient told me that, under the directions of several surgeons, the sinus had been packed daily with strips of iodoform gauze, and that she had worn in the external opening a glass plug with a broad flange, which was held in place by a bandage and pad. Irrigation of the fistulous tract had been tried, but the introduction of the double-current catheter used for the purpose was painful to the patient, and the bowel was kept constantly irritated by the solutions employed, which gravitated into it. Since leaving the hospital she used a Davidson syringe herself, which rendered her condition in this respect still more uncomfortable. To wash out the sinus frequently and free the surrounding skin from contact with the irritating discharges was the form of treatment which the urgency of the case called for. After trying several different double-current catheters, I finally improvised a soft-rubber one, which I could make myself. It was provided with small openings along its whole extent, and, being flexible, could be introduced to the bottom of the sinus. Through this I passed very frequently, by means of my continuous irrigator and drain, an intermittent stream of an antiseptic fluid and sterilized air, which, after bathing the walls of the sinus as it issued from the perforations of the tube, was taken up by suction before it had time to gravitate into the rectum or escape from the external orifice. The patient soon learned to introduce the tube herself; she then carried on the douching at her home several times daily, for half an hour at a time. Under this treatment the inflammation in the skin soon disappeared, the induration in the walls of the sinus became very much reduced, and the secretion of pus ceased. During the following four or five months, while I was abroad, the patient used the douche, but less frequently, and, on my return, she showed me a silk ligature which had been washed out. She wore a pad then over the opening, which became only slightly stained during the twenty-four hours.

The soft-rubber double-current drainage tube which I have referred to I made of tubing the size of a No. 6 catheter (E.), which I introduced double. I made a number of openings along one-half of it and passed a wire through it to produce sufficient stiffness for introduction. The exact amount of substance, though, which would cause its calibre to become obliterated when

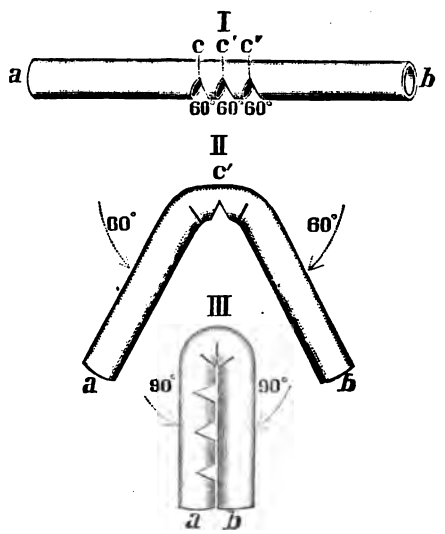

Fig. 2.—Diagram Showing the Process of Bending a Tube without Obstructing its Calibre.

sharply bent on itself I had removed with scissors. Since then Messrs. George Tiemann & Co. have perfected under my directions a punch (Fig. 1) for the purpose, the cutting edge of which incloses an angle of 60°. It makes a smooth notch in a soft-rubber tube by removing a wedge-shaped segment from its side.

Now to produce a symmetrical bend in any portion of a tube three points are taken along its central axis, the distance between them being equal to the diameter of the tube which is used. The apices of three angles of 60° each are thus located, which are made by successive applications of the punch, and between the triangular spaces produced very small portions or bridges of the tube are left intact, which, when brought together, by bending, form the wall in the re-entrant angle. To be more explicit, when the extremities of the tube are brought into parallelism, *a* (Fig. 2) must sweep through an angle of 60°, the centre of rotation being at *c*, and *b* also moves through one of an equal number of degrees, the centre of rotation being at *c″*. Then by making *c′* the centre of rotation and approximating *a* and *b* still farther it will be readily seen that they each sweep through an additional angle of 30° and become parallel, the calibre of the tube, of course, remaining the same throughout.

In all my cases of ovariotomy, when there is oozing, I introduce this tube inside of the ordinary glass one which I use, and draw up the secretions into a medicine-dropper, without disturbing the dressings. The air which is sucked in is of course sterilized, because it is filtered through the antiseptic coverings of the wound. After forty-eight hours I am accustomed to remove the glass

[1] Read before the Alumni Association of the Woman's Hospital, January 19, 1891.

[2] The After-treatment of Kolpo-Uretero-Cystotomy, etc., New York Medical Journal, June 1, 1889.

drainage-tube by slipping it out, at the same time holding the double-current one in its position.

Dr. Wiley said he had had a great deal of experience with these openings after laparotomies and his experience was, it was not drainage that was at fault, for as long as a foreign body or irritating thread remained at the bottom of the sinus they were certain of trouble. Where these sinuses are of long standing this condition is almost invariably due to the presence of the thread. He had some cases where he made a counter-drainage through the vagina and got through drainage in that way. He had succeeded in curing the patient, even where there was an opening in the intestine, by making a counter-opening through the vagina.

Dr. Bozeman, in closing the discussion, said he agreed with Dr. Wiley in regard to the thread and he thought by keeping the sinus open and having it distended as much as possible he would in that way afford an avenue for the thread to come out. He did not give this method as a radical cure. It was simply a way to make the patient comfortable, but the result in this case was virtually a cure.

PERSONAL IDENTITY DETERMINED BY SCAR AND OTHER BODY-MARKS.[1]

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AND

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Some three years ago desertion from the United States Army became so frequent as to attract public attention. The probable causes were discussed not only in the military journals, but in the daily press. Soldiers were interviewed as to their grievances, and the enterprising American reporter did not hesitate to enlist and go through the routine of the recruiting rendezvous and depot in his endeavor to satisfy the public interest in the matter. Local conditions were assumed by these inexperienced observers to be general, and desertion was attributed to as many causes as there were observers, interviewers, or interviewed grumblers in the ranks. Officers of the army knew how groundless were the charges of military mismanagement in relation to the comfort and well-being of the enlisted men, and referred desertion to the restlessness of the men,

"Ever seeking something new,"

their failure to recognize the binding nature of their contract with the Government, the ease with which desertion was effected, and the inadequacy of the efforts to pursue, arrest, and punish. If the deserter was not captured while making his escape, he was afterward safe, for the only effort made by the Government to recover him was the offer of a reward so small that for it no citizen of the United States would be tempted to throw a man into a military prison by informing, unless a personal grudge or quarrel came in as a controlling factor. So easy was it to desert, and so slight the risk of capture and punishment, that some officers of the army, among whom were the writers of this paper, believed that the reported number of deserters did not represent an equal number of men who had enlisted and deserted, but that one man swelled the record under different names, enlisting if hard pressed for present subsistence, or if desirous of free transportation from one part of the country to another, and going off when his personal object was accomplished.

To suppress this a method of determining the identity of the individual was needful. At this time the anthropometric method of Bertillon was being adopted with enthusiasm by the prison wardens and superintendents of the country. This was, therefore, carefully considered in relation to the object in view. As an index to a large number of individualities it seems excellent, dividing them into smaller numbers with which an individual record may be compared; but trustworthy only if the measurements are accurate. Now, as our records of the measurements of the height of recruits by our medical and recruiting officers showed us that in following the record of an individual we should have to pursue three trails—the recorded height and two others, one a half inch above and the other a half inch below the recorded height—we came to the conclusion that in adopting the Bertillon system we should have, in tracing a single individual, to follow no less than twenty-one to thirty different trails, as there are from seven to ten or more measurements to be made, and each, according to our intimate knowledge of the work of our medical and recruiting officers, would require three branches of investigation if the subject were to be carefully followed up. Moreover, granted that our officers should become as enthusiastic anthropometricians as some of our prison superintendents, and their measurements should be accepted as within the limits of allowable error, their statements of the measurements would give no guarantee of the identity of the individual to the officers of a court-martial. These officers would individually have no difficulty in recognizing identity if the reputed individuals were each of the same height, color of eyes, apparent age, and nationality, and had each a brown mole over the xiphoid cartilage, an oblique scar half an inch long across the back of the interphalangeal joint of the left thumb, the lobe of the left ear chopped off, and the letters X Y Z with certain other specified flourishes tattooed on his right forearm. They would recognize these personal marks and condemn; but it is a question whether they would be scientific enough to condemn on the coincidence of measurements which have allowable limits of error and some of which may, as is well known, be modified by the effort of the subject at deception.

The system of Bertillon takes cognizance of these personal marks and scars as collateral evidence; but to us this collateral evidence appeared to be the primary evidence that would prove or disprove the case; and as we considered that the men whom we desired to detect were not such as would be likely to have lived their lives without incurring scars, we concluded that a careful record of these personal marks would suffice to determine identity without the various measurements of the anthropometric system. The accuracy of our conclusions will be shown directly.

That which was needful was evidently a full and precise record of the permanent marks on the body of every man in the army. We planned an outline figure card on which such marks should be recorded. One side of the card gave a view of the anterior surface of the body, the other gave the posterior surface; both were divided by dotted lines into regions, so that the situation, size, obliquity, etc., of a mark or scar could be seen at a glance independent of any detailed description. In connection with this figure card we elaborated a plan which in theory was as follows: Let our file-boxes contain a card for every enlisted man of the army, showing on it every permanent mark, scar, or peculiarity of the individual at the time of his enlistment. These cards would represent the army, not as organized into corps and regiments, but arranged alphabetically for convenience of reference. Let us have also every change in the personnel of the army promptly reported and noted, so that our file-boxes of cards should always represent the army by the addition of the cards of recruits and the withdrawal of those discharged, dead, deserted, etc. In progress of time we should accumulate a lagre number of cards of men who had deserted or been discharged for disability or misconduct; and our object would then be to prevent the enlistment of any man who had a dishonorable record. Each morning's mail would bring us the changes that had taken place in the personnel of the army. So many noti-

[1] Read by Brevet Lieutenant-Colonel A. A. Woodhull, United States Army, at the recent meeting of the International Congress of ygiene and Demography in London, England.

fications of discharge, desertion, etc., and so many cards of newly enlisted men. The work of the office would resolve itself into noting the losses by desertion, etc., and comparing the cards of the recruits with those of deserters and others of bad record to ensure that these men should not again effect an entrance into the army.

Obviously the best method of instituting a system of this kind would have been to have called for the card of every man in the army, of recruits as enlisted, and for the notification of losses day by day as they occurred; but as superior authority did not have confidence in our ability to effect any practical good by this project we did not feel authorized to ask for all that we desired, but determined to do the best we could with the means available.

Accordingly, as a beginning, on April 1, 1889, the outline figure card was called for from every medical and recruiting officer and the following instructions were issued:

"Hereafter a record of such indelible or permanent marks as may be found upon the person of an accepted recruit will be made upon an outline figure card, as illustrated on accompanying pages of this order, and forwarded promptly on completion to the Surgeon-General of the army. No letter of transmittal is required. The outline cards will be furnished by the Adjutant-General.

"The examination and record of marks of recruits belonging to the general service will be made by the medical officer at a depot; of recruits enlisted at military posts, by the post or attending surgeon; and of recruits enlisted at other places where the services of a post or attending surgeon cannot be obtained, by the enlisting officer. In the cases referred to in section 1, the record of marks will be made at the second examination.

"The object of this record is to obtain evidence for the identification of men who have had previous service in the army, and its successful accomplishment depends upon a rigorous precision in noting on the card all personal markings or peculiarities. The following directions should therefore be strictly observed: Make a careful search of the body, front and rear, on each side of the median line, separately commencing at the scalp and ending at the foot, for any scars, moles, tattoo marks, etc., that may exist, indicating their position on the body by a dot made with pen and ink at a corresponding point on the figure card; on its blank fly-leaf note the *general inclination*, whether vertical, oblique, or horizontal; the *form*, rectilineal, curved (inward or outward), oval, circular, undulated, or oblong; the *character*, if scar, whether recent, permanent, or transient; if mole, hairy or otherwise, etc.; and the distance of the mark from some fixed anatomical point, for example: Scar, from burn, 1¾ inch above, and 1 inch to the right of left nipple, oblique, curved inward. When numerous small scars are found on the back, from pimples, or on the fingers, from cuts, note them as 'numerous scars,' or describe the principal one and add the words, 'and many others;' describe briefly tattoo marks and distortions of the finger- and toe-nails, *i.e.*, the striated or split nail of the finger, or the hypertrophied nail of the great toe. If, after careful search, no personal marking is found, the fact should be noted on the figure card."

When some three thousand cards had been collected they were carefully studied with the view of determining the best method of comparing one card with the others for the purpose of detecting identity. The first practical result of this study was to show the carelessness of the examining and recruiting officers, as manifested by the large number of cards which showed no marks whatever on the individual. Communications were sent to those officers calling for an intimation on the card of some characteristic which would distinguish one man at a given height and color of eyes from another; and later, when it was found that certain medical officers paid special attention to the making out of these cards, the card which reported no marks was returned to the officer who rendered the report requesting a special examination in the case and inviting his attention to the fact that the cards received from a certain depot averaged 17 scars, moles, and other permanent marks in addition to vaccinations and tattoos, and suggesting that the report of no marks in the case in question was due to carelessness in examination. After this a manifest improvement was observable in the cards received, which of course increased their value for the purpose in view.

The study of these three thousand cards showed that they could be divided into sections for comparison in accordance with height, color of eyes, and the regions on which the scars were noted. Dividing the men into tall men of over sixty-eight inches, small men of under sixty-six inches, and men of medium height, we had three grand divisions which became split into six according as the iris was brown in color or of some shade of blue or gray. The uncertainty of the record in many instances led us to consolidate the blue and gray eyes. We had thus six primary divisions dependent on height and color of eyes, to be broken up into smaller sections by the body marks and scars. Presuming that a scar on the face would be observed and noted, no matter what marks or scars there might be on other parts of the body, this constituted the first section of the division. The card of a man who had no marks on his face would not be looked for in that section, but if he had a scar on the palmar surface of the hand, of the wrist, of the anterior surface of the forearm or arm, his card would be compared with those of the deserters and others of bad record who had no scar on the face, but who had marks on the hand, wrist, forearm, or arm. Scars or marks on the anterior surface of the body took precedence of those on the posterior surface as an index for dividing the cards into smaller packets for purposes of comparison. Thus the card of a recruit sixty-nine inches in height, with gray eyes, and the only recorded scar the cicatrix of a boil on his buttock, would not be looked for among those of medium or small stature, nor among those of brown eyes, nor among the tall men with blue or gray eyes who had scars or marks on the face or other anterior regions of the body, but only among those having marks on the posterior surface. By a systematic division of this kind our three thousand cards could be divided into sections, the largest containing not more than fifty cards.

But the practical work of comparing the cards speedily developed that this system, however pretty in theory, was by no means so satisfactory as a general study of the card in question and its comparison in the columns of a register in which the tattoos, marks, and scars of deserters, etc., were entered. The register consists of two volumes, one for the blue-eyed, the other for the brown-eyed men, and is divided, according to height, as follows: 64 inches and under, 64½, 65, 65½, 66, 66½, 67, 67½, 68, 68½, 69, 69½, 70, 70½, 71, 71½, and over. Each register is ruled in columns for the various regions of the body as "Anterior, Posterior, Right, and Left," for the general divisions, with head, neck, shoulder, thorax, abdomen, groin, hip, thigh, knee, leg, ankle, foot, toes, etc., for the specific locality. Each section of height is again divided, and men having tattoos are entered apart from those having no tattoos, for a deserter having tattoos is very likely to have the same when re-entering the service, and a recruit coming in without tattoos is not likely to be found among those with tattoos. It will be observed, however, that recruits coming in with tattoos are examined over those deserters who did not have such marks, as these different devices might have been put on while at liberty.

The abbreviations used in entering descriptions of deserters are almost self-explaining, as: V., vaccination; S., scar; T., tattoo; B., birthmark; M., mole; S.P., small-pox; C.P., chicken-pox; etc.

In examining recruits over the register, an inch on each side of the recorded height is allowed for variation or defective measurement.

Much difficulty was experienced, as has been said, in

obtaining accurate cards from the recruiting officers, and a similar difficulty was encountered in procuring prompt information of desertions, so that although the outline figure card was called for on April 1, 1889, it was really not until the beginning of the present year that the system was in proper working order. Nevertheless our results to May 31st last are as follows: twenty-six deserters have been identified, twenty-one men have been recognized as ex-convicts, and twelve as fraudulent enlistments, having been previously discharged for cause, making a total of fifty-nine detections by the body marks. Indeed, the list comprises sixty two cases; and it is to be observed that in this number of cases only one mistake has been made. This was one in which identity was suspected and reported on height, color of eyes, and the loss of a portion of his ear; but the identity was disproved by other circumstances not, at the time of the report, known to this office. The two other cases were successes so far as the system is concerned, for one was a military convict, whose re-enlistment had been authorized, and the other a case of an unsuccessful applicant for enlistment whose card had been forwarded by mistake, compared and identified as a recently released convict.

Upon the result of this experiment, sixty-two cases with but one mistake in so short a time after the inauguration of the system, under many official difficulties, we claim that the body marks, if carefully noted, suffice to determine identity wholly irrespective of the special measurements on which the Bertillon system is based.

[The paper was accompanied with copies of the cards, by which identity was established, and the plan of the register of desertions.]

THE LOCAL TREATMENT FOR SYPHILITIC MANIFESTATIONS OF THE THROAT.

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SYPHILIS has generally been looked upon and considered an affection of the skin, and when treated by a specialist the patient usually comes into the hands of a dermatologist.

The skin symptoms are self-limiting in the majority of cases, and this is especially true of the secondary symptoms. What we have to treat mostly in a patient suffering from this disease is not the skin, which generally takes care of itself, but the mucous membrane of the throat, nose, eye, and in fact any portion of the body where nature has distributed this covering.

During the first months of a syphilitic course of treatment the patient will complain mostly of his throat; little mucous patches will appear every now and then and be a source of annoyance, both to the patient and his physician, on account of their repeated and unexpected occurrence. They are the Alpha and Omega of syphilis.

Long after the body has been freed from its symptoms, and the general surface of the skin is as normal as before the patient received the infection, these little patches will again and again reassert themselves.

The patient is much worried over their appearance, as he has been told by his physician that he can convey a chancre by kissing, or by any direct contact of this membrane, to an opposite party. He knows that drinking out of a glass and then offering it to another may communicate this disease. Having his handkerchiefs washed is another means of communication, and smoking a friend's pipe is still another.

Thus the appearance of these small sores in the region of his mouth means a visit to his doctor. The occurrence of these sores can be often traced to the condition of the teeth in a patient's mouth. A jagged tooth will irritate the tongue and produce one of these lesions. The use of tobacco, either in chewing or smoking, will do the same; highly seasoned food is yet another cause. Biting of the lips by the teeth will make a nasty sore, and will produce some of the ugliest mucous patches that a practitioner is called upon to treat. The causes of these patches, we can see, are numerous and varied, and a patient never goes through this disease without finding himself worried again and again by the presence of these symptoms.

Later on in the disease we find the superficial ulcer, deeper than the mucous patch, more likely to spread, more destructive of tissue, but less infectious.

Last of all of the lesions of the mucous membrane we come to the deep ulceration, which may spread and destroy the anatomy of the throat with a remarkable rapidity.

I saw a young man not long ago who had lost most of his tongue; the pharynx was one large ulcer and the roof of the mouth had been entirely eaten away by the ravage of this disease, so that the finger could be passed through his mouth into the nares. The mucous membrane of the cheeks participated in the ulceration.

In looking over this paper for a moment, I think it can be discerned at a glance that it is mucous membrane and not the skin that participates mostly in the ingress of this disease.

It is seldom we are called upon to treat the skin manifestations of this disease beyond a month, or, at the worst, three or four, except in late tertiary cases; but the mucous membrane we must watch diligently and thoroughly throughout course of treatment. It is to the mucous membrane we direct our attention to see the effect of our medicine, and also to the mucous membrane to watch the progress of our patient. If the gums are red or swollen we vary our treatment; if the breath has a fetid smell, again we vary our medication; the mucous membrane is the talisman throughout this disease.

Mucous patches have been destroyed by the application of caustics and cautery; but if the cause of these patches has been neglected, the symptom is sure to reassert itself.

To search for the cause of this lesion and eradicate it would be a good action, but it is easier said than done. There are few patients that will bow down to a physician's directions after their disease is once ameliorated.

Treatment with caustics means repeated applications, to destroy these lesions. The superficial ulcerations and the deep ulcerations of the throat have been treated by blowing on their surfaces powdered iodoform. If we would stop for one second and think, we would soon see that the iodoform is washed off the affected part almost as soon as it is applied. Thus we gain nothing by this mode of treatment.

Iodoform has been applied in ether by means of a spray, but I think this is hardly more efficacious. I sometimes apply it after the following procedure: First, I spray on the part a preparation of some oil, such as the Voschano or benzoinol, then blow on my powder and again spray with the oil; thus the part is covered evenly with a perfect unguent. This sometimes is very satisfactory, as the oil seems to hold the powder blown on, and to prevent partially the saliva from removing it.

A number of washes have also been used for the treatment of these various throat manifestations—carbolic acid, Dobell's solution, various strengths of chlorate of potash, and many other formulas.

Lately I have used, with a most pleasing and beneficial result both to myself and to my patient, the ordinary lotio nigra.

Mucous patches that defied extirpation with other medication have disappeared rapidly and permanently when this solution has been used according to my directions.

I no longer look at these lesions as the bugbear of syphilis. I have found this preparation a most useful and satisfactory agent in the treatment of these throat affections.

Patients that in the past would see me weekly, complaining of one of these sores, now go months, and in the majority of cases, where the internal treatment is also followed out, I have failed to observe any of these unpleasant symptoms.

I employ this wash for the mucous patch, the superficial ulcer, and the deep and dreaded tertiary lesion. It acts marvellously well in all three, much better than the carbolic acid, cautery, the iodoform, and any I have ever tried. I have used it most extensively in my Bellevue clinic, and in my private practice. The most afflicted throat will feel its good effect after one or two applications.

A patient who had been troubled with repeated and ugly ulcerations of the tonsils that combated internal treatment alone, and failed with other applications to the mucous membrane, told me that he saw these patches disappear when he gargled his throat with this wash. I rather demurred at his enthusiasm, and when he saw a look of uncertainty on my face, he modified his statement and said: "Well, doctor, if I don't see them heal, I feel them heal with every application." This is a pleasant thing to be told and a pleasant thing to see.

We have in this simple wash a specific for this class of throat affections. I also use it through a spray in treating ulcerations of the mucous patches of the larynx.

These cases should be seen oftener by the practitioner, as the patients are unable to bring the wash on the diseased parts. Ulcerations in this location are sometimes most unique in their history.

I had a woman apply to me at the clinic, complaining of a tickling in her throat, and absolutely having no pain. An examination revealed extensive ulceration of the true and false cords, the epiglottis, and a general and extensive ulceration of the whole lining membrane of the larynx. The ulceration was so situated that the patient's voice was not altered one particle from its normal register. The volume and the tone were perfect. She did not know that she had a sore throat in the neighborhood of her larynx until I told her. She felt no pain, no loss of voice, and not the slightest indication of a laryngeal trouble. It was an isolated case.

The ulceration seemed to be so situated that the speech was not altered. Inside of a week her epiglottis might have been permanently destroyed and the voice greatly impaired.

Syphilis of the mucous membrane is a most insidious disease. We must watch our patient carefully, no matter how well he may appear, throughout a course of treatment.

To the mucous membrane we direct our eye to see how the syphilitic virus is being conquered, and often we can diagnose a past syphilis, even when the patient is most emphatic in a denial of any past contamination.

A diligent search of the mouth of an old syphilitic, where he has ever had any tertiary ulcerations of the throat, will reveal little cicatrices, in some cases so small that they would be readily overlooked; but to an experienced eye they would be as diagnostic of this disease as the sub-crepitant râle, when heard in the apex of a lung, is of phthisis. These little marks will unfold a history, and we can tell sometimes by their appearance about how long ago the patient had his first chancre.

Sometimes a scar will be seated high up on the hard palate, other times on the soft, perhaps a small mark on the uvula, other times on the lips. No matter how firm a patient may be in his denial of any past infection, the presence of these marks generally means that an old tertiary sore has been healed.

The pain in these ulcerations is usually very slight. We must differentiate between pain and an annoyance. Pain is present in tuberculous ulceration of the throat, but rarely syphilitic ulceration, no matter how extensive the ulceration may be.

Patients when they apply to the practitioner will complain of pain; but if we ask the patient if he suffers more when he is eating or drinking, he will generally reply, "I have some trouble in getting my food past my throat," and he will point with his finger usually to his thyroid cartilage, which will mean, in the majority of cases, that the epiglottis may be congested or inflamed and of course impedes the entrance of food into the œsophagus. It is not a pain. If it was it would be painful when he ate or drank, but when he is so engaged the throat is generally much relieved.

In laryngeal phthisis the pain at this time is so intense that the patient in this disease dies of starvation or chokes to death, as the pain is so great that he has not the ability to eat.

In syphilis, if we bind our patient to it, even if we find the epiglottis is almost destroyed, we find that there is no actual pain, but that there is a difficulty in guiding the food to its proper destination.

Syphilis is not confined to bachelorhood. Cases will come up under our observation where the parties are married. Here we must watch the throat as assiduously as we did the chancre. The slightest mucous patch will imprint the infection on a person's partner.

A young man saw me some three years ago with one of these sores and gave a history of being married five weeks. I cauterized the membrane and appointed two days after for a second visit. I did not see him again till three weeks had elapsed, when he appeared with his wife, who had a chancre on her lip, caught by kissing him upon his mouth. If the patient is married we cannot watch the throat too carefully. We should interdict all kissing until we are well assured that the patient's system is well under the control of internal medicine and the mucous membrane fails to disclose any of these patches.

Mr. A——, aged twenty-three, applied to me, complaining of a sore throat of four weeks' standing; he had been taking internally a mixed treatment. An examination disclosed an extensive ulceration of the pharynx, the soft palate on one side had been destroyed up to the hard palate. The membrane was very much congested and inflamed, and the ulceration seemed to be spreading with a remarkable rapidity. I put him under large doses of potassium iodide and the local use of the lotio nigra as a gargle five times a day. The following day he reported the throat much easier, his cough had decreased in its intensity, his expectorations much freer, and the general symptoms much decreased. In two weeks the throat was completely healed.

Patient B—— applied to me complaining of tenderness of the tongue, and an examination showed the whole organ covered with mucous patches. He had been taking internal medication. I put him under the French protiodide pills and the local use of the wash. In little over a week the throat presented its normal appearance, although I did not interdict his smoking. At this time he was consuming three or four cigars a day. He had been troubled with these patches for the past six months. After the throat was healed I directed him to use the wash diluted one-half strength every night and morning, no matter whether his throat was sore or normal. Five months have now elapsed and he has had no outbreak of any of these lesions.

Case C—— applied to me with a sore nostril, and an external examination revealed a heavy ulceration of the external nose extending up to its junction with the nasal bones. The lower portion of the nose had been completely destroyed and eaten away. The septum and all the nasal bones had necrosed and had disappeared long before the lady paid me a visit. The inside of the nose revealed one large and extensive ulcerated surface. I put her under internal medication and had the nose washed out five times a day with lotio nigra and treated also with the iodoform ointment. In a few days the case was absolutely under control and in a little over four weeks the parts had completely granulated. I could not have obtained this quick result if it had not been for

my local applications. I could cite case upon case of this tertiary ulceration that have yielded most marvellously under this simple local treatment, and I see every day in my office cases where the throats present a normal appearance, free from any mucous patch, due to the use of this wash night and morning, although some of the patients are addicted to the use of tobacco. In some instances the wash will have to be diluted one-half strength; but if the symptoms are severe, it is best to adhere to the regular formula. With this mode of treatment a practitioner can control the most obstinate case of syphilis and in time eradicate the poison entirely from his patient's system.

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A CASE OF DROWNING WITH RESUSCITATION.

By F. A. BURRALL, M.D.,

new york.

As is usual at this season, casualties from drowning are of frequent occurrence. No class of emergencies is of a more startling character, and I think that a history of the case which I now present offers some peculiar features, and will not be without interest to physicians.

The accident which forms the subject of this paper occurred August 29, 1890, at South Harpswell, Casco Bay, Me., where I was passing my vacation.

At about 9.30 A.M., M. B——, an American, aged eighteen, the son of a fisherman, a young man of steady habits and a good constitution, with excellent muscular development, and who had never before required the aid of a physician, was seen by the residents of the village to fall forward from a skiff into the water and go down with uplifted hands. I could not learn that he rose at all after the first submersion. Two men were standing near a bluff which overlooked the bay, and after an instant's delay in deciding that an accident had occurred, they ran over an uneven and undulating pasture for a distance of two hundred and fifty paces to the shore. One of them, after a quick decision not to swim out to where the young man had fallen in and dive for him, removed trousers and boots and waded out five yards to a boat which he drew in to the shore and entered with his companion, taking him to a yacht which lay two hundred and forty yards from the shore, in the padlocked cabin of which was a boat-hook. The padlock was unfastened, the boat-hook taken, and they proceeded by the boat directly to where the young man lay. He was seen through the clear water, lying at a depth of nine feet at the bottom of the bay, on his back, with upturned face and arms extended from the sides of the body. He was quickly seized by the boat-hook, drawn head upward to the surface, and with the inferior portion of the body hanging over the stern of the boat, and the superior supported in the arms of his rescuer, was rowed rapidly to the shore, where he was rolled a few times, and then placed prone upon a tub for further rolling. I was told that much water came from his mouth. Meantime I had been sent for to where I was sitting, one hundred and fifty-one yards from the scene, and I arrived to find him apparently lifeless on the tub, and to be addressed with the remark, "Well, doctor, I suppose we are doing all that can be done."

I have given these details, as from a study of them I was aided in deciding the time of submersion, as well as the intervals which transpired before the intelligent use of remedies. It is also remarkable that, notwithstanding all which has been written about ready remedies for drowning, no one present knew anything about them, although living in a seafaring community.

I immediately directed that the patient should at once be placed upon the ground, which was sloping, and arranged his rubber boots under the back of the head and nape of the neck, so that the head should be slightly elevated and the neck extended, while the head was turned somewhat upon the side, that fluids might drain from the mouth. The day was clear and moderately warm. Respiration had ceased, but no time was lost in commencing artificial respiration. The patient had on a shirt and pantaloons, which were immediately unbuttoned and made loose, and placing myself at his head I used the Sylvester method, because I was more accustomed to it than any other. It seems to me more easy of application than any other, and I have often found it of service in the asphyxia of the newly-born.

The patient's surface was cold, there was extensive cyanosis, and his expression was so changed that he was not recognized by his fellow-townsmen, but supposed to be a stranger. The eyelids were closed, the pupils contracted, and the inferior maxilla firmly set against the superior. One of the men who had brought him ashore had endeavored to find the heart's impulse by placing his hand upon the chest, but was unable to detect any motion.

I continued the artificial respiration from 9.45 until 10, when I directed one of his rescuers to make pressure upon the ribs, as I brought the arms down upon the chest. This assistance made expiration more complete. When nature resumed the respiratory act I am unable to say, but the artificial breathing was continued in all its details for three-quarters of an hour, and then expiration was aided by pressure on the chest for half an hour longer. Friction upward was also applied to the lower extremities, and the surface became warm about half an hour after the beginning of treatment.

About twenty minutes after ten, two hypodermic syringefuls of brandy were administered, but I did not repeat this, since I think alcohol is likely to increase rather than diminish asphyxia, if given in any considerable quantity. A thermometer, with the mercury shaken down below the scale, at this time did not rise. At 11.8 the pulse was 82; respiration, 27; temperature, 97.

After natural respiration had commenced, the wet clothing was removed, and the patient was placed in blankets. Ammonia was occasionally applied to the nostrils, since, although respiration had returned, there was no sign of consciousness; the natural respiration was at first attended by the expulsion of frothy fluid from the lips, which gradually diminished, and auscultation revealed the presence of a few pulmonary râles, which also passed away. There were efforts at vomiting, and pallor succeeded cyanosis; there were also clonic contractions of the flexors of the forearm. The pupils dilated slightly at about one hour after beginning treatment. Unconsciousness was still profound, and loud shouting into the ear elicited no response. Mustard sinapisms were applied to the præcordium, and the faradic current to the spine.

Coffee was also administered by a ready method which, as a systematic procedure was, I believe, novel when I introduced it to the profession in the Medical Record, in 1876. I take the liberty of referring to this, since I think it is now sometimes overlooked. It was described as follows:

"A simple examination which anyone can make of his own buccal cavity will show that posterior to the last molar teeth when the jaws are closed, is an opening bounded by the molars, the body of the superior, and the ramus of the inferior maxilla. If on either side the cheek is held well out from the jaw, a pocket, or gutter, is formed, into which fluids may be poured, and they will pass into the mouth through the opening behind the molars, as well as through the interstices between the teeth. When in the mouth they tend to create a disposition to swallow, and by this method a considerable quantity of liquid may be administered."

After I had worked with the patient in the open air, for four and three-quarter hours, he was carried to a cottage near by and placed, still unconscious, in bed. There had been an alvine evacuation during the time in which he lay in the blankets.

Consciousness began to return in the early part of the following morning, and with its advent it was discovered that the memory of everything which had occurred from half an hour previous to the accident, up to the return of consciousness, had been completely obliterated. With this exception the convalescence was steady and uncomplicated, and of about a week's duration. From a letter which I recently received from my patient, I learned that the lapse of memory still remains.

My experience with this case has taught me that, unless the data have been taken very accurately, we cannot depend upon any statements as to the time of submersion in cases of drowning. My first supposition was that my patient had been from thirteen to fifteen minutes under water, but a careful investigation reduced the supposed time by one-half. This makes the time of submersion about six minutes, and that which elapsed before the intelligent use of remedies about three minutes longer.

For a long time the opinion of Sir Benjamin Brodie, concerning the presence of water in the lungs of the drowned, was accepted, who says "that the admission of water into the lungs is prevented by a spasm of the muscles of the glottis cannot, however, be doubted, since we are unable to account for it in any other manner."

Later experiments made by a committee of the Royal Medico-Chirurgical Society of London demonstrated, on the contrary, "that in drowned animals not only were all the air-passages choked with frothy fluid, more or less bloody, but that both lungs were highly gorged with blood, so that they were heavy, dark-colored, and pitted on pressure, and on being cut exuded an abundance of blood-tinged fluid with many air-bubbles in it." Dr. R. L. Bowles [1] also holds that the lungs of the drowned contain water, and supports his views by a list of cases. In his words, "These examples show very conclusively that in cases of drowning in man, water does exist in the lungs, that the water only very gradually and after a long time is effectually expelled, and that it is absolutely impossible that any relief should be afforded in that way by the Silvester method." Dr. Bowles believes that the method of Dr. Marshall Hall is superior to any other in this class of cases. He thinks that on account of the immediate adoption and continued use of the prono-lateral position, this method is more to be trusted than any other for keeping the pharynx clear of obstruction. "It also empties the stomach and gradually clears the lungs of the watery and frothy fluids, and will surely and gently introduce sufficient air at each inspiration to take the place of the fluid which has been expelled." In the light of even my limited experience I cannot but feel that Dr. Bowles's opinion concerning the Silvester method would admit of some modification. This is often the case with very positive statements concerning medical matters. In my own case the Silvester method answered well, but I was much impressed with Dr. Bowles's claims for the Marshall Hall method, and should bear them in mind were I called upon to attend another case of drowning.

I think it must be admitted that pulling the tongue forward as a means of opening the glottis, which has become a standard treatment in asphyxia, is unscientific, and not warranted by the results of experiments made to determine its value.[2]

Dr. Bowles also believes that "the safety of the patient is most perfectly secured by keeping him on one side during the whole treatment, one lung being thus kept quite free." With the account of my case I have brought forward such views of other writers as it seemed to me would be of practical service and throw light on a subject which is of great importance, since the yearly record of mortality from drowning is by no means inconsiderable. I think, however, that a knowledge of what ought to be done in cases of drowning should be much more generally diffused than is the case at present. It should be one of the items of school instruction, since no one can tell when such knowledge may be of immense importance in saving life, and the time lost in securing medical aid would involve a fatal result.

It is also very desirable that all doubt should be removed, by the decision of competent medical authorities, as to which "ready" method or methods are the best, since there are several in the field. With this should be decided what is the best means for securing patency of the air-passages, and, in short, a very careful revision of the treatment now recommended for drowning, in order that there may be no doubt as to the course which should be adopted in such a serious emergency.

[1] Resuscitation of the Apparently Drowned, by R. L. Bowles, M.D., F.R.C.P., Medico-Chirurgical Transactions, vol. lxxii., 1889.

[2] Dragging on the tongue's tip would not affect its base or the epiglottis sufficiently to make it a praiseworthy procedure. Medico-Chirurgical Transactions, vol. lxxii. See also MEDICAL RECORD, April 4, 1891. Pulling out the tongue is a mistake, since irritation of nerves of deglutition stops the diaphragm. Medical Times and Gazetteer.

A FEW REMARKS ON THE TREATMENT OF LAMELLAR AND SENILE CATARACTS.

BY G. HERBERT BURNHAM, M.D., F.R.C.S. EDIN., M.R.C.S. ENG., ETC.,

LATE RESIDENT SURGEON TO MOORFIELDS EYE HOSPITAL, LONDON; OCULIST AND AURIST TO THE EYE AND EAR INFIRMARY AND THE GENERAL HOSPITAL, TORONTO, ETC.

THE lamellar cataract is a peculiar, and, as a rule, an easily distinguishable form. The oculist is generally consulted on account of dimness, or increasing dimness, of sight, not relieved by glasses selected by the patient, or supposed short-sight. The vision should always be carefully tested. A hasty test may give comparatively poor vision, whereas a careful one will show a little astigmatism, which, when corrected, is followed by greatly improved sight.

The operations usually performed are needling, with or without the subsequent use of the curette or syringe. I may mention that in this form of cataract I consider that the manner of needling the lens is of very great importance. When discission is alone to be used there should be at first only moderate laceration of the anterior capsule, with very little disturbance of the adjacent lens substance. By doing this the patient can be sent away with safety, as the soft matter affected by the aqueous comes away readily through the opening into the anterior chamber, and thereby does away with the fear of tension, the chief danger. This, of course, means frequent repetition. The oft-repeated needling and slow absorptive process consequent upon this operation are the chief objections to its employment.

The other method is, I consider, much preferable and not any more dangerous, when properly performed. Here, on the contrary, the needling is to be freely done, and in its improper performance lies the greatest source of danger. A moderate amount of the anterior capsule ought to be lacerated, together with the adjacent lens substance, to a fair depth, so that it may not only be freely reached by the aqueous, but, when acted upon, readily make its way into the anterior chamber. Thus tension and pain are avoided, and the cataract is removed in a short time. Even if there should be a little pain, as long as there is no plus tension it need cause no alarm; but if tension, then great watchfulness should be exercised. In some cases a marginal corneal incision and the use of the curette to keep apart the lips of the wound allow a great deal of soft matter to escape. However, as a rule, the use of the syringe does so more fully. In using this latter, guard against drawing into it any part of the vitreous or iris. With care neither of these complications should occur, and hence should not be looked upon as momentous objections. If the needling be done by making merely a small opening in the capsule and then freely disturbing the lens substance, evil is almost certain to follow. The lens swells with great rapidity, so that in two hours severe pain and marked plus tension are noticed. The tension must be removed at once, either by tearing

freely the capsule or extracting the lens by a corneal incision. To allow these symptoms to remain without such prompt measures of relief means purulent cycloiritis in a few hours, with diminished tension and the loss of the eye. The after-treatment consists of the use, locally, of atropine, ice, and leeches, if necessary.

If before the operation very good, though misty, vision can be obtained by glasses, I have seen the patient very greatly pleased by operating upon one eye and leaving the other untouched. In this way clear perception after correction by glasses is got with the eye operated upon, and the other, with its fair vision and normal accommodation, is a much better helpmate than if it had been operated upon. I remember well a young physician upon whom this was practised with great convenience and satisfaction to himself.

Of the methods of removal of the ordinary senile cataract the operation I consider the safest is that in which a preliminary iridectomy is done with subsequent removal of the lens; next, the removal with iridectomy at the time of the operation; and finally, the extraction without iridectomy. For either of the two prior methods the position of the corneal incision close to the periphery, with a small conjunctival flap, is the best, as it not only hastens and strengthens the union of the wound, but also renders it less liable to leak and to purulent infiltration. Free laceration of the capsule corresponding to the pupillary centre has a tendency, I think, to lessen the necessity of subsequent needling. Dr. Knapp's method of peripheral laceration of the capsule has certain features which commend it, but at the same time the objection of always requiring secondary needling. This needling, though very rarely fraught with bad results in skilful hands, still is an operation which every oculist is desirous of escaping. It is advisable to clear the wound by the use of the forceps or vulcanite spatula, not by sponges or absorbent cotton. The five per cent. lotion of muriate of cocaine seems to be about the best strength. It is always very necessary to see that the edges of the wound are well coapted, and that no coagulæ lie between them. If there should be left much soft matter, use atropine immediately after the operation. The danger of prolapse or anterior synechia is not at all increased, I am persuaded, and the tendency to iritis and the consequent thickening of the capsule is much lessened. Eserine is only to be used when the iris cannot be made to fall back into its place, and then stopped in twenty-four hours and atropine substituted.

As to the propriety of looking at the eye after extraction, examine it at any time if you are in doubt as to its condition; for by telling the patient quietly to open both eyes, it will be done easily without any spasmodic movements. In this way the eye is seen, the face not even being touched by the fingers.

The extraction without iridectomy is, in soft or fluid cataracts, thoroughly justifiable and gives good results. In the ordinary hard senile cataract it seems to have greater drawbacks than the other methods. It requires a purely corneal incision, the iris is subject to much greater bruising, and, besides, the danger of prolapse of the iris is much increased. The use of eserine to act on the iris brings the latter into closer contact with the soft lens matter left in the eye, and thus renders iritis much more likely to occur. As to vision, I do not consider there is much difference; and as to appearances an ordinary observer would not remark the presence of an iridectomy, as the upper eyelid and thickness of the lens prescribed render it far from noticeable.

I have frequently had patients with miniature cataracts come to me, saying, "One of my eyes is now so dim-sighted that it must be ready for operation, and as to the other, the cataract is pretty ripe." This condition was really miniature cataract in each; but in the blind eye the dimness was due to long-standing chronic glaucoma. Seeing this so often has caused me to advise, in eyes likely to be so affected, a preliminary iridectomy, so as to take all possible precautions.

In purulent infiltration of the wound I introduced the use of the five per cent. lotion of carbolic acid, which acted most successfully. Now, however, the same principle is carried out by the bichloride of mercury lotion. As to the preparation of the eye for operation, I do not see any utility in so thoroughly flushing an eye with antiseptic lotions as some do. If the eye be a normally healthy one, I think the conjunctiva is irritated by such a procedure. If, however, there is an unhealthy condition, then, if compelled to operate, use them, but then only. It is to the instruments I should give great attention, and see that beyond all doubt they are aseptic.

At Moorfields Eye Hospital we paid great attention to this. They, just prior to their employment, were taken out of a five per cent. lotion of carbolic acid and so placed that the part of the instrument coming into contact with the eye was held up by a little cross-bar on the tray, so as not to touch anything. By doing this, by examining the condition of the conjunctiva and lachrymal apparatus, and by the surgeons washing their hands before operating, purulent infiltration became very rare indeed, though many of the patients seemed good subjects for it as far as general appearances went. I am quite well aware of the strong feeling of some oculists as to the necessity of antiseptic washing of the eye just before operating, but I must confess, in the healthy eye, this seems to me meddlesome surgery.

By making an alteration in the Graefe knife I think I have added to its usefulness. I speak of the Graefe knife made by Weiss & Son, London. The change consists in having placed the broad side of the handle at right angles to the broad side of the blade, instead of in the same plane as at present. This change enables the finger-tips so to grasp the flat surface of the handle as to give much greater tactile power and freedom of movement. I have used it for several years with ever-increasing benefit and to the exclusion of the old form.

Clinical Department.

NECROSIS AND SPONTANEOUS RESECTION OF THE HEADS OF BOTH HUMERI.

By H. W. NELSON, M.D.,

STEUBENVILLE, O.

THE following case is, I think, a very good practical illustration of the conservative powers of nature.

Lena O——, aged seven, was attacked, October 8, 1889, with what was supposed to be acute articular rheumatism. She is of healthy parentage. There is no history of hereditary taint or tendency to disease, specific or otherwise. Neither is there any history of traumatism or of exposure to atmospheric influences. Her previous health seemed to be good. She came home from school complaining of being tired and weary. During the night she was feverish and very restless, complaining of soreness and pain in her limbs, especially her shoulders. In the morning her shoulder-joints were very much swollen and very painful. The case was regarded by the attending practitioner as one of articular rheumatism. In a short time all the joints of both the upper and lower extremities were involved to a greater or less degree. The attending practitioner informed me that she had intense pain, high fever, and very great restlessness. About the seventh day of the attack it was found that ulceration was threatened directly over the head of the humerus. I was asked to see her on January 21, 1890. At that time there existed extreme emaciation, profuse perspiration, diarrhœa, and a feeble, frequent pulse. The joints of the upper and lower extremities were red, swollen, and painful. At the shoulders, wrists, forearms, knees, ankles, and along the anterior surface of the tibia, were ulcerated openings discharging ichorous pus. The little patient was so sensitive and irritable from her long suffering that a satis-

factory examination could not be made. The head of the humerus of each side could be seen and felt through the ulcerated openings. She was ordered cod-liver oil with lactophosphate of lime, and a simple nutritious diet. Medicines were given to procure rest and restrain the diarrhœa and sweating. The head of the humerus being dislocated from the glenoid cavity by the ulcerative process, the whole arm was drawn upward and forward by the action of the deltoid and pectoralis major, causing the bone to protrude more and more. One and a half inch of the left humerus, and one inch of the right, were protruded and exposed. Nature began to resect the exposed portion of bone, and on March 5th it came away. About April 1st a similar portion came away on the other side. The pain and soreness began to diminish, the opening slowly healed, and we began making gentle passive motion of the upper end of the decapitated humerus. The colliquative diarrhœa and sweating ceased, and the patient gained in flesh and strength, and to-day she is in good health. She has almost unimpaired motion at the shoulders, necrosed portions of the bone have ceased to come away, and there is no obvious deformity.

A HAIR-PIN IN THE NOSE.

By JOSEPH C. ROTH, M.D.,

SYRACUSE, N.Y.

On January 28, 1886, while the writer was doing night duty at the Out-Patient Department of Chambers Street Hospital, New York City, a policeman brought in his daughter, stating that she had a hair-pin up her nose, and that a physician had tried for an hour to remove it. Upon questioning how the accident happened, she said she had dry nasal catarrh, and frequently used the curved end of a hair-pin to loosen the crusts. On the evening of January 27th she attempted to cleanse her nose as usual, and introducing the pin too far, it eluded her grasp; all attempts at its removal merely seemed to push it still farther into the nose. On examination I found a hair-pin in the right nostril, the two points embedded in the mucous membrane of the bony septum and turbinated bone. I attempted extraction with forceps for some time, but being unsuccessful, and producing quite a free hemorrhage, I wrapped cotton about a nasal probe, and pressing it against the inner side of the distal or curved end of the hair-pin, pushed it as far into the naso-pharynx as possible. I then, with my index and second fingers passed through her mouth and upward, back of palate, grasped the curved end of the hair-pin, and extracted the same through the mouth.

By removing the pin in this manner I was able to avoid all injury to the nose and throat, save what I had done while attempting its extraction through the anterior nares. The hair-pin was of the ordinary shape and size, measuring two and a half inches doubled, or about five inches from end to end.

AN UNUSUAL CASE OF DISLOCATION BY DIRECT VIOLENCE OF COSTAL CARTILAGES UNATTENDED WITH SERIOUS CONSEQUENCES.

By WILLIAM H. ARTHUR, M.D.,

CAPTAIN AND ASSISTANT SURGEON, UNITED STATES ARMY.

James T——, private, Troop F, Tenth Cavalry, young mulatto, had been on sick report several times for trifling ailments, colds, nasal catarrh, acute tonsillitis, etc., since January last, but had never given any history of injury of any kind. On May 23d he came to sick call complaining of a slight pain in the left breast. On stripping the man to make a physical exploration of the chest, a very marked nodular prominence was noticed in the median line, about one inch above the ensiform cartilage. Examination showed complete dislocation forward of the sternal end of the sixth, and a partial dislocation of the fifth costal cartilage on the left side, with partial dislocation of the corresponding cartilages on the right side.

On inquiry the patient gave the following history, for the first time: Early in January he was knocked down and tramped upon by a mule, while shoeing. The breath was knocked out of him, but the pain didn't last long, and he continued on duty. Great swelling came on, and as it gradually subsided the prominence of the dislocated cartilages became apparent.

The patient complains of little or no pain or discomfort, except when making a great effort or trying to lift an unusually heavy weight. No attempt at reduction was made, the difficulty of retaining the displaced cartilages in place, even if they could be forced back, being evident.

Fort Grant, Ariz.

THERMOMETRY IN DIAGNOSTIC RELATION TO EAR DISEASE.

By G. STERLING RYERSON, M.D, C.M., L.R.C.S. Edin.,

PROFESSOR OF OPHTHALMOLOGY AND OTOLOGY IN TRINITY MEDICAL COLLEGE, TORONTO.

Every aurist must have remarked in the course of treatment of chronic suppuration of the middle ear that there are times when the auricle feels warmer than usual to the hand. I have noticed also that this increased warmth of the ear often corresponds with an increase of discomfort in the ear, and even with pain. It occurred to me to insert an ordinary registering thermometer in the external auditory canal, which revealed the fact that there was an increase of temperature on the affected side of from one-eighth to one degree. When I have found this the case I have used free douching with carbolated hot water, which, in my experience, always relieves subacute congestions and inflammations of the middle ear whether the drum-membrane be perforated or not.

My observations have extended over the last two years, but have not been followed up very persistently or systematically. My attention was drawn anew to this subject by some remarks made at the Ontario Medical Association meeting, which was held recently in this city, by Dr. Birkett, of Montreal. He stated that Dr. Buller had been using surface thermometry to the mastoid with important results, which he will no doubt publish in due time. In the meantime I invite the attention of the profession to this novel proceeding in the hope that it may lead to new indications in diagnosis of deep-seated ear disease.

PURPURA HÆMORRHAGICA.

Dr. T. J. Whitney, of Frewsburg, N. Y., writes: "The report of a case of purpura hæmorrhagica occurring in practice is as follows: An old man, aged ninety-one, has suffered three attacks, each time in the spring of the year. There was venous oozing from all the mucous surfaces—bladder, bowels, mouth, and nose—the skin being covered throughout the body with specks and spots from the size of a pin-head to that of the hand. There was constipation of the bowels with a congested portal circulation, and consequently the whole venous system was engorged. As the patient was suffering from 'senile obstinacy' and would take no medicine, I made the remedy fit the disease and gave him gtt. ij. of croton oil, suspended in milk, which he was willing to take every two hours until he was thoroughly purged. The result was immediate relief and a cure of the trouble within five days."

Dr. Concepcion Aleixandre has recently been appointed upon the staff of the Hospital de la Princesa in Madrid. This is said to be the first appointment of a woman to any official position in Spain.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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MEDICAL OFFICERS OF PASSENGER STEAMSHIPS.

ONE of the trials of the Health Officer of this port, and probably of those at other ports as well, though to a less degree, is the trouble and the vexation caused by the utter incompetence of many of the surgeons supposed to look after the health of the passengers and crew of the vessels on which they sail. In his previous reports Dr. Smith, the Health Officer at New York, has protested against this state of things, and urged the necessity of devising some way by which it may be possible to secure competent men for these responsible positions, and in his report for this year he again devotes several pages to the subject.

In spite of what has been said by many conversant with the existing evils of the medical service on the passenger steamships coming from Europe to this city, it is reported that there has been no material change for the better, and that there is not likely to be until the companies awake to the fact that it is to their own interest to obtain good men for this service by the only way in which this is possible, namely, by paying their doctors a salary that will compensate them and will attract experienced and intelligent men, who will take up the work for life, and not merely as a little vacation after student days, and with a desire to see something of the world before settling down to the routine work of medical practice. The fact that the surgeons on the first-class transatlantic steamers are generally good men is evidence sufficient that the payment of a fair salary would bring men of ability into the service, since on these boats the contributions of the passengers add sufficiently to the miserable salary paid by the company to make the position a desirable one, and to attract physicians of some standing in their profession. But even here, as Dr. Leet, of Liverpool, has so often declared and proved, it will be impossible to get men who will act solely for the good of those entrusted to their professional care, when possibly the health and well-being of these people can be secured only at some pecuniary sacrifice on the part of the company, or it may be at the expense of the captain's comfort, until the surgeon is made in a measure independent of the company for his position. "The medical service on transatlantic passenger steamers, will never be what it should and can be," says Dr. Smith, "until the medical officer has a status in the mercantile marine which he has reached by due preparation and examination by a competent board, and which will be as secure and permanent, when he has obtained it, as that of the medical officers in the English navy, or the United States Marine Hospital service."

It would at first seem a rather hopeless task to induce these companies, whose margin of profit is none too great, to increase their expenses sufficiently to enable them to offer a compensation that will tempt competent men to accept service under them in their ships. But it might be found cheaper in the end, if by so doing the occasional detentions at Quarantine, necessitated by blunders on the part of the ship's surgeon, could thereby be done away with. In one case a passenger who had been suffering from small-pox for four or five days was found by the deputy health officer on making his inspection at Quarantine. This case had not been seen, or at least not recognized, by the ship's doctor. The passengers were removed to the Quarantine of Observation and detained fourteen days, at an expense to the company of about four thousand dollars. This sum, added to the amount now paid to the medical officers of that line, would have made each one's salary nearly decent, and there would have been some inducement to educated and competent men to enter the employ of the company.

The gross stupidity of some of the surgeons to whom are entrusted the lives of travellers to and from England and the Continent, is most astonishing. An instance illustrating this, which occurred on an English steamer arriving at Quarantine with six hundred immigrants, one of whom had small-pox, is related by the Health Officer of the port in his report. "The patient was found in a sort of box seven or eight feet square, built of rough boards in the centre of one of the steerages. For purposes of ventilation a hand's breadth of space was left on all sides at the bottom of the pen, and some five feet from the bottom slats were laid horizontally, two or three inches apart, until the sides were built up sufficiently high to prevent the escape of the patient, or the intrusion of friends. When the Health Officer remonstrated with the doctor for this outrageous exposure of the well passengers to the contagion of the sick, he exclaimed, in words and with a manner that seemed intended to settle the matter, 'Don't you see, sir, that I have scattered carbolic acid powder all around?' pointing to a patent disinfecting powder that had no effect except to disguise more disagreeable smells, that had been sparingly scattered on the steerage floor in the vicinity of the victim's pen." Another so-called doctor allowed a passenger with semi-confluent small-pox to remain four or five days in the steerage with four hundred and twenty-eight other passengers, apparently not knowing that there was anything wrong with the patient.

But all are not as bad as this, and since we have quoted Dr. Smith in some of his strictures upon the incompetent, we gladly listen to him when he finds something pleasant to say for the efficient among the ship surgeons. "There are," he says, "capable and efficient medical officers on those transatlantic passenger steamers whose patrons are numerous and liberal; to such these criticisms do not apply; and for those they are not intended. There are few more capable physicians than many of the medical officers of the first-class steamers that run between ports of the Old World and the New."

SHOULD YOUNG DOCTORS WRITE?

When a young man begins his medical career the question sometimes arises whether he ought to write articles for medical journals. The first and instinctive response is in the negative. He has had but little experience, and he cannot possibly add anything to the sum of medical knowledge. But this view of the matter is, in fact, not entirely correct. For, in the first place, the capacity for literary work, and of putting ideas in written words has to be developed early in life. To the vast majority of men writing is a mighty task because the habit was never acquired during the plastic season of youth. If a man does not begin to write before he is forty he will never do it at all. The practice of writing, therefore, though it may be acquired at the expense of a good deal of indifferent work, helps the physician in his maturer years to embody results that are of great importance and interest. There are, as everyone knows, in all large cities a number of medical men of brilliant attainments, large experience—acute, practical, and successful. But they cannot write; and the profession is but little the better for their labors. Usually such gentlemen speak lightly of literary work and do not believe in "rushing into print." As a matter of fact they only do not do it because they cannot.

The kind and amount of literary work which young men can wisely undertake is limited, and this fact should be steadily borne in mind. Reporting cases must be done very little. The case should either be unique in kind or of positive interest therapeutically or pathologically. Experimental work in physiological or pathological laboratories is a kind always open to young men, and almost always gives results in some increment to medical knowledge.

A field of literary labor also in which young men can usually work profitably is that of collating and digesting critically all contributions upon certain subjects. Such articles, if prepared carefully in connection with personal observations, are often of great service to older and busier men.

Many young men make the mistake, in pursuing a certain task, of attempting to prove too much or of investigating too wide a field. It is much better to settle a little matter positively and forever, than to bombard a large subject with inconsequential results.

Finally, we would remind young men that therapeutical problems are the most difficult to solve; and that books should never be written by the immature.

WHAT ANTISEPSIS HAS DONE.

The younger generation of surgeons, whose medical birth and bringing up date back no more than ten or a dozen years, have little conception of the trials that beset surgeons before the discoveries of Pasteur and Lister and the results that have flowed from them. As little, perhaps, as those of older growth have of the ante-anæsthetic times, when patients were poisoned with tobacco in order to produce muscular relaxation and were strapped to the table to keep them quiet while under the surgeon's knife, and when skill and speed were nearly synonymous terms in recounting the qualifications of an operator. We compare the results now obtained with those of fifteen or twenty years ago and are prone to forget the tremendous advantages we have, and to plume ourselves with scant reason on being better surgeons than we were in those days or than others were before us.

These reflections have been called forth while reading Sir James Paget's "Studies of Old Case Books," to which we have already referred in these columns, and observing the fatal course of many cases which nowadays would scarcely be looked upon as in any sense serious or demanding more than ordinary care and attention on the surgeon's part. We may believe that the author's cases could nowhere have received better care than they did in his hands, yet he relates a number of instances similar to the following in which a fatal termination in these days would seem almost inexcusable. The case was one of abscess, which was opened and discharged a large amount of pus ". . . and then the case went on after the usual manner of the time, near thirty years ago, and the patient died about five months after the accident, exhausted with suppuration, hectic, blocked femoral and iliac veins and bed-sores."

In almost any surgical work of those times and in the files of old journals the same story can be read. It was not that the surgeons were incompetent, far from it, for there were giants in those days, but because asepsis and antisepsis were unknown and unpractised. We certainly have cause to congratulate ourselves and our patients as well, or more, that we live and work in the days of anæsthetics and of antiseptics. But who would not give much for a peep ahead to see what surgeons of fifty years hence will be doing, what wonders they will be able to accomplish, and what by us undreamt-of methods will then be in daily and hourly use?

News of the Week.

The Medical Editors of the United States are invited to a conference to be held in St. Louis during the meeting in that city of the Mississippi Valley Medical Association, on October 14th, 15th, and 16th. Dr. Love, Chairman of the Committee of Arrangements of this Association, extends invitation to all physicians who are eligible to membership in the American Medical Association to come to St. Louis at this time and enter into the scientific work and social pleasures of the occasion.

The Medical Bureau of the Columbian Exhibition has been organized in Chicago, under the medical directorship of Dr. J. E. Owens, assisted by Drs. Allport, Yeager, and Plummer. A temporary dispensary and emergency hospital has been constructed, where medical and surgical attendance and medicines are furnished to employees, of whom there are already over two thousand on the exposition grounds during the day, free of charge. The Bureau is amply equipped with instruments, medicines, operating-room furniture, stretchers, cots, and an orderly. The City Police Department has furnished a patrol wagon for ambulance service, to be used until a permanent ambulance has been constructed, and the Exposition Company provides horses, harness, and driver. The present bureau, operating during the construction period, will be the nucleus of the medical service of the Fair.

There Ought to be a Médical Sheol, says our indignant contemporary, the *Medical Herald*, for those doctors who are so utterly lost to all the instincts of the gentleman, and which are a part and parcel of the very being of a true physician, as to combine with an equally unscrupulous druggist to defraud the patient whose confidence he at the same time desires and seeks to enjoy. One must have "the cheek of a government mule" to be able to look his patient in the face when writing his prescription, knowing that his commission will be added by the druggist.

Dr. William Coggswell, aged seventy-two, died on August 15th, in Bradford, Mass. He was graduated from Dartmouth Medical School, and began the practice of medicine in 1845. He was President of the Massachusetts Medical Society in 1876, and later held prominent positions in numerous societies and associations, both medical and lay.

Yellow Fever in Vera Cruz.—Persons recently arrived in this city from Vera Cruz, Mexico, bring confirmation of the report that yellow fever is prevalent in that city.

Dr. Hume Field, of Dinwiddie County, Va., died at his home on August 16th, aged sixty-two. He was a prominent surgeon in the Confederate Army during the war.

Punished for Betraying a Professional Secret.—A prominent gynecologist in Germany was recently found liable for $1,600 damages, besides being condemned to pay a fine of $100, for having published clinical notes of some of his cases in a gynecological treatise. His fault consisted in publishing the names of his patients in conjunction with the clinical accounts of their cases.

The Surgeons as well as other Officers Must be Treated with Respect in the French Army, and breaches of respect on the part of subalterns are severely punished. The Algerian Council of War has recently condemned a soldier to death for having struck on the face the surgeon of his regiment who had refused to place him on the sick list.

A Remedy for Poisoning by Venomous Snakes and Rabid Dogs.—The Berlin correspondent of the *Therapeutic Gazette* says that a remedy for blood poisoning caused by the bites of snakes and rabid dogs has been discovered in Africa, by a Dr. Engels, in the "wild-growing, black, noble palm." Five hundred negroes bitten by poisonous snakes were treated with the extract of the noble palm, and four hundred and eighty-seven were cured in five days. Of sixty-seven farmers and negroes bitten by rabid dogs sixty-five were saved, while two died of weakness. The remedy is injected under the skin, and causes a moderate fever, not exceeding 35.5° C. On the third day the patient is without fever, swelling and inflammation of the affected part have disappeared, and on the fifth, or, latest, on the seventh, day the patient is cured.

A Hospital for Marasmic Children.—The Paris Municipal Council has decided to build a pavilion in connection with the Maternity Hospital for the reception of newborn children who, after the recovery of the mothers, require special attention. Accommodation is to be provided for twenty infants.

Suicide in the Italian Army.—Suicides have been so frequent of late in the Italian army that the Minister of War has called a council for the purpose of discussing the causes of the tendency to self-destruction, and devising remedies if possible. The soldiers who have been called on to express an opinion as to the reasons for the frequency of suicide among their fellows ascribe it to overwork and improper food.

The Prevention of Blindness.—The Maine Legislature has passed a law providing that, "should one or both eyes of an infant become reddened or inflamed at any time within four weeks after its birth it shall be the duty of the midwife, nurse, or person having charge of said infant, to report the condition of the eyes at once to some legally qualified practitioner of medicine of the city, town, or district in which the parents of the child reside."

Dr. Thomas L. Smith died at his home in Brooklyn on the afternoon of August 14th, at the age of ninety-one years. Dr. Smith was born in Orange, N. J., in 1800. He was educated in the Orange Academy, and at the age of seventeen began the study of medicine under Dr. Samuel Hayes, of Newark, afterward coming to New York, where he received his degree from the College of Physicians and Surgeons, in 1822. He was in private practice for a few years, but entered the navy in 1828 with rank of Surgeon's Mate (now called assistant surgeon), where he did active service for fifty years. In 1837 he was promoted to the rank of Surgeon and subsequently made many cruises to Europe, South America, and the East, serving in the intervals of sea duty in the Navy Yard and Naval Hospital at this port. He was married in 1833 but his wife died nine years later. In 1846 he married again and his wife survives him. In 1871 he was retired with the commission of Medical Director with the relative rank of Commodore. Since then he has lived quietly at his home in Brooklyn.

Dr. G. Halsted Boyland, formerly of Baltimore, Md., has recently passed the examinations at the Faculté de Médecine in Paris, and has established himself in practice in that city. His graduation thesis, which took a very high mark, was entitled the "Non-Diabetic Forms of Glycosuria."

The Congress of German Naturalists and Physicians will meet this year, in Halle, on September 21st to 25th.

Germany Wants to be a Druggist.—The proposal that the whole business of preparing and dispensing drugs should be taken over by the State has again been brought before the German Reichstag.

Death of an Unbeliever.—A wealthy lady died recently in the south of France, at the age of eighty-three, so says the *Lyon Médical*, and in her will left to her physician, "in gratitude for his intelligent and devoted care which had enabled her to reach such a ripe old age," everything he would find in her cabinet. When this was opened its only contents were found to be the untouched mixtures, boxes of pills, and other medicaments (still enveloped in paper as they had been sent by the druggist) which had been prescribed for the defunct by her medical attendant during the past ten years.

Foreign Visitors to the Congress.—Sir William MacCormac, Mr. Arthur Dunham, and Mr. Reginald Harrison, of England, who are on their way to this country to attend the Congress in Washington, will, after the close of the session, be for a time the guests of Dr. Lewis A. Sayre, of this city.

Dr. Henry B. Millard, of this city, was elected, on July 21st, foreign corresponding member of the Paris Academy of Medicine. Dr. Millard was chosen from a large number of candidates, receiving forty-two votes out of fifty-one cast. Dr. Costomiris, of Athens, was also elected a corresponding member at the same session.

Dr. John F. S. Gray, a graduate of the College of Physicians and Surgeons, New York, who formerly practised in this city, and subsequently in Paris, Nice, and Geneva, died at St. Clair Springs, Mich., of Bright's disease, on August 18th.

Dr. Edward R. Mayer died in Wilkesbarre, Pa., on August 17th, in his seventy-second year. He was graduated in medicine from the University of Pennsylvania, in 1848, and at the time of his death was one of the oldest practising physicians in Wilkesbarre.

The Treatment of Mad Wolves' Bites.—Owing to the number of rabid wolves in Roumania and the neighboring countries, Professor Babesch, Director of the Bacteriological Institute in Bucharest, and one of the ablest pupils of Pasteur and Koch, has had many opportunities of treating persons bitten by mad wolves by Pasteur's method, unfortunately, however, without success, for the symptoms of the disease broke out much too quickly to admit of an effective cure by the application of lymph taken from the spinal cord of rabbits that had died of hydrophobia. In view of this sad fact, Professor Babesch has for some time past been making experiments with the purpose of ascertaining whether the immunity from the virus of hydrophobia conferred by Pasteur's method cannot be transferred by inoculating the blood of animals thus rendered immune to other warm-blooded animals. These experiments showed that such inoculation had a prophylactic effect, even in cases in which Pasteur's spinal-cord lymph, under otherwise quite identical conditions, produced no such results whatever. Of twenty-seven persons on whom the inoculations were made twenty-four recovered.

A Large Fee.—The largest fee I. ever got, writes Dr. William W. Parker in the *Virginia Medical Monthly*, was from an Irish girl, eight years old, whose sister, sixteen years old, was lying ill with pneumonia. It was many years ago. She was the daugeter of a poor widow in the suburbs. There were two smaller children in the family. It was by the labor of this sixteen-year-old daughter that the family got bread, and I saw her value to the household. I told the mother my fears, which it seems the eight-year-old child overheard, and dreadful alarm filled her breast. She waited on the sick sister with the greatest tenderness, and the smaller children were kept quiet and orderly. I promised the mother I would call again late at night. It was dark and rainy. Fears and forebodings increased with the surrounding gloom. The eight-year-old girl could not stay in the house, but in spite of the cold remained out-doors watching for my coming. When in the distance she heard the sound of horses' feet, her heart swelled with hope and fear, but when, peering through the darkness, she caught sight of me she exclaimed, with an emphasis and heartfelt earnestness that thrilled me through and through, and which I shall never forget, "Thank God, here comes the doctor!"—a prayer of thanksgiving that went as straight to heaven as that of sainted prophet or priest, and I felt that even my name had been mentioned and honored in the courts of heaven. It may be, too, the prayer of that little orphan girl has turned aside the dart of death uplifted against some dear one of my own household.

An Hydrostatic Stethoscope has been invented by Dr. T. T. Reynolds, surgeon to the steamship City of Paris. It is described and pictured in the *Lancet* of August 1, 1891. In shape it resembles the ordinary wooden stethoscope, but it differs from it in being filled with water, the fluid being kept in position by a rubber membrane at each end. The expanded aural extremity forms a cushion of water which fits accurately to the ear, and the pressure produced by the ear on that cushion of water makes taut the chest end of the instrument, bringing that end in close apposition with the patient's body, thus affording the physician, the inventor claims, a perfect medium of conduction.

The Alvarenga Prize for 1891, of the College of Physicians of Philadelphia, has been awarded to Dr. L. Duncan Bulkley, of New York, for his essay on Syphilis Insontium.

Advice to a Young Physician.—The following letter, written eighty years ago by Dr. Benjamin Rush, applies so well to present conditions and is so full of sound advice that we publish it here:

"PHILADELPHIA, April 21, 1812.

"DEAR SIR: The facility with which a medical education is acquired in our country has multiplied physicians to such a degree that I do not know of a spot in the United States in which you would fix yourself with more advantage than in the one you now occupy. Competition and slow pay are now the conditions of a medical life everywhere. My advice to you is to remain where you are; you will grow with the growth of the settlement. Purchase upon credit, if possible, a small farm; a little debt will make you industrious and furnish you with an excuse to send in your bills as soon as your patients recover. Employ the leisure which a healthy season will give you, in agricultural labors; the more you will obtain in this way the more independent you will be of your patients, and, of course, the more you will be courted by them. Happiness does not consist in wealth. A competence, books, alternate labor and ease, to use the words of the poet Thomson, a good wife, a few friends, vicinity to a church, and conduct regulated by the principles of the Gospel constitute the sum total of all the happiness this world is capable of giving, and these may all be possessed and enjoyed in your present situation.

"From, dear Doctor,

"Yours truly and affectionately,

"BENJ. RUSH.

"TO DR. PETRIKEN."

Gray Nails.—Under the name "canities unguium" Professor Giovanni describes a peculiar affection, characterized by all the nails turning white and opaque. The hair and skin were not affected.

Euphorine, or Phenylurethran is the name of a new anti-rheumatic, antiseptic, and antipyretic, discovered by Sansoni, and recommended by Professor Stiller, of Pesth. Dose, three to six grains.

Dr. du Bois-Reymond, of Berlin, has been awarded a gold medal for his contributions to science.

American Gynecological Society.—The following papers are announced to be read at the coming meeting of this society, in Washington, in September: "The Advantages of Mixed Anæsthesia in Gynecological Surgery," by Dr. John R. Reeve, of Dayton, Ohio; "Concealed Accidental Hemorrhage during Labor," by Dr. Henry C. Coe, of New York; "Diffuse Adenoma of the Uterine Body," by Dr. James R. Chadwick, of Boston; "The Influence of Season on Recurrent Pelvic Inflammations," by Dr. Frank P. Foster, of New York; "The Therapeutic Aspect of Some Ovarian Disorders," by Dr. Edward W. Jenks, of Detroit; "Insanity following Laparotomy," by Dr. J. M. Baldy, of Philadelphia; "Vaginal Hysterectomy by Morcellement; Technique and Indications for Operation," by Dr. Samuel Pozzi, of Paris, France; "A Clinical Study of Primary Carcinomatous and Sarcomatous Neoplasms between the Layers of the Broad Ligament, with Report of Cases," by Dr. Joseph E. Janvrin, of New York; "The Present and Improving Status of Cæsarean Surgery," by Dr. Robert P. Harris, of Philadelphia; "Unique Case of Multiple Neuro-lipomata following Laparotomy," by Dr. H. Marion Sims, of New York; "President's Address," by Dr. A. Reeves Jackson, of Chicago; "The Treatment of Cancer of the Cervix Uteri by High Amputation; Second Series of Cases, with Additional Report on the First Series," by Dr. William H. Baker, of Boston; "The Advantages of Delivery in the Left Lateral Posture," by Dr. Henry J. Garrigues, of New York; "The Influence of Imperfect Development as a Cause of Uterine Disease," by Dr. W. Gill Wylie, of New York; "The Technique of Vaginal Fixation of the Stump in Abdominal Hysterectomy," by Dr. Henry T. Byford, of Chicago; "Can We Avoid Mural Abscesses and Ventral Herniæ after Laparotomy?" by Dr. Horace T. Hanks, of New York; "Some Clinical Testimony as to the Ultimate Results of Removal of the Uterine Appendages," by Dr. Thaddeus A. Reamy, of Cincinnati; "Indications for Abdominal Section in the Treatment of Puerperal Pelvic Inflammations," by Dr. R. B. Maury, Memphis, Tenn.; "A Study Relative to the Functions of the Reproductive Organs in American Indian Women," by Dr. Andrew F. Currier, of New York; "The Immediate Closure of Laceration of the Cervix," by Dr. Cornelius Kollock, of Cheraw, S. C.; "The Conservative Treatment of Pelvic Tumors and Diseases," by Dr. Eugene Gehrung, of St. Louis; "The Anatomical Relations of the Lacerated Perineum to the Mechanics of Its Causation," by Dr. Edward Reynolds, of Boston; "In Memoriam—Dr. Fordyce Barker," by Dr. James R. Chadwick, of Boston; "Ureteritis in the Female," by Dr. Matthew D. Mann, of Buffalo; "The Surgical Treatment of Retroversion and Prolapse of the Uterus, by Dr. Paul F. Mundé, of New York; "A Paper," by Dr. Theophilus Parvin, of Philadelphia; "Series of One Hundred Laparotomies; My Mistakes and Failures," by Dr. A. Palmer Dudley, of New York; "Laparotomy in Trendelenburg's Posture, with Exhibition of a New Operating Table," by Dr. Clement Cleveland, of New York; "The Electrical Treatment of Uterine Fibroids in England," by Dr. George Keith, of Brooklyn; "Diabetes Mellitus Gravidarum," by Dr. Henry D. Fry, of Washington; "A Successful Porro Operation," by Dr R. Stansbury Sutton, of Pittsburg, Pa.; "An Argument against the Stem-pessary or so-called Drain-tube, by Dr. Egbert H. Grandin, of New York.

American Dermatological Association.—The Fifteenth Annual Meeting of the American Dermatological Association will be held at the Shoreham Hotel, Washington, D. C., September 22, 23, 24, and 25, 1891. The following is the programme of papers to be read: Tuesday, September 22d—"Dermatitis Hæmostatica," by Dr. H. G. Klotz; "A Case of Lupus Erythematosus with Fatal Complications," by Dr. W. A. Hardaway; "Report of a Case of Universal Erythema Multiforme, with colored portrait and specimen," by Dr. L. A. Duhring; "An Unusual Case of Sarcoma involving the Skin of the Arm: Amputation: Recovery," by Dr. F. J. Shepherd; "Multiple Sarcomata: History of a Case Showing Modification, and Amelioration of Symptoms with large Doses of Arsenic," by Dr. S. Sherwell. Wednesday, September 23d—Discusson on Tuberculosis of the Skin: 1, "Its Clinical Aspects and Relations," by Dr. J. C. White; 2, "Its Pathology," by Dr. J. T. Bowen; 3, "Its Treatment," by Dr. G. H. Fox; "Thirteen Cases of Tuberculosis of the Skin, with their Treatment," by Dr. J. S. Howe; "A Case of Lichen Scrofulosorum," by Dr. J. Grindon; "Notes of a Visit to the Leper Hospital at San Remo, Italy, with Photographs," by Dr. L. A. Duhring. Thursday, September 24th—"The Treatment of Alopecia Areata," by P. A. Morrow; "A Therapeutic Note on Alopecia Areata," by Dr. L. D. Bulkley; "Morphia Atrophica of Wilson," by Dr. R. W. Taylor; "The Treatment of Pruritus," by Dr. E. B. Bronson; "Prairie Itch," by Dr. L. N. Denslow; "Diseases of the Skin Associated with Derangements of the Nervous System," by Dr. W. T. Corlett; "Treatment of Chronic Ringworm in an Institution for Boys," by Dr. L. A. Duhring. Friday, September 25th—"Notes of a Case of Acute Dermatitis Exfoliativa," by Dr. J. E. Graham; "Note Relative to Pemphigus Vegetans," by Dr. J. N. Hyde; "A Study of Mycosis Fungoides, with Report of a Case," by Drs. H. W. Stelwagon and H. Leffingwell Hatch; "Lymphangioma Circumscriptum, with Report of a Case," by Dr. M. B. Hartzell; "Remarks on Carbuncle, with Report of a Peculiar Case," by Dr. H. G. Klotz; "Note on Erythema et Nævus Nuchæ," by Dr. C. W. Allen; "A Case of Lichen Ruber," by Dr. J. Grindon; "The Personal Equation in Dermatology," by Dr. L. D. Bulkley; "The Hypodermic Use of Hydrargyrum Formamidatum in Syphilis," by Dr. R. B. Morison; "Retarded Hereditary Syphilis," by Dr. R. B. Morison; "Epilation; Its Range of Usefulness as a Dermato-Therapeutic Measure," by Dr. J. Zeisler.

Society Reports.

SECOND CONGRESS FOR THE STUDY OF TUBERCULOSIS.

Held in Paris, July 27, 28, 29, 30, and 31, and August 1, 1891.

(Special Report to the MEDICAL RECORD.)

FIRST DAY, MONDAY, JULY 27TH.

Zinc Chloride Injections.—The members of the Congress were received in the morning at the Hôpital Trousseau, by M. Lannelongue, who exhibited some thirty patients with tubercular arthritis whom he had treated by means of injections of zinc chloride. In each case a plaster cast of the joint, as it was before the treatment was begun, was shown and compared with the actual condition. The oldest case had been under treatment only three months, and none had received over ten injections, yet all showed a marked diminution in the size of the joint, a finer tissue replaced the fungosities, and in some cases there was considerable painless and non-spasmodic joint motion possible. M. Lannelongue then demonstrated his method in a case of sacro-iliac disease accompanied with abscess and caries of the crest of the ilium. The solution employed was of the strength of one per cent., and two drops were injected at each point, the number of insertions varying according to the size of the joint, five or six being made in the case of knee-joint disease.

Inhalation of Creasote Vapor.—A visit was then made to the Hôpital Saint-Antoine, where M. Tapret exhibited the apparatus used by him in the treatment of pulmonary tuberculosis by inhalation of vapor of creasote under pressure. The apparatus consisted of a large bell under which the patients sat, in which there was a pressure of one and a half atmosphere, this being maintained by a special contrivance while yet permitting the constant renewal of the air. The inhalations lasted about four hours, a half-hour being taken to raise the pressure to the required point, and the same time to reduce it to that of the surrounding air. The air, as it entered the chamber, passed over vessels containing creasote, and became thus strongly charged with the vapor of this substance. While remaining under the bell the patients usually felt very well, not coughing or expectorating at all, but on coming out they usually felt chilly for a time, and had a mild attack of coughing. The results of this mode of treatment in M. Tapret's hands had been most encouraging. He had never seen any accident, such as hæmoptysis, caused by the treatment.

Opening Session.—At two o'clock in the afternoon, the opening session of the Congress was held in the large amphitheatre of the Faculté de Médecine, the members being called to order by the President of the Congress, M. Villemin. The Honorary Presidents for the United States were Drs. Jacobi and Page. M. Villemin made a short address of welcome, in which he reviewed the work done in regard to the prophylaxis and treatment of tuberculosis in the three years which had elapsed since the previous Congress. He touched upon the hope and disappointment caused by the Koch experiment, and said there was no cause for discouragement in this, but rather for greater hope and renewed effort. Tuberculosis is not a cyclical infectious disease, like pneumonia, and we have no reason to believe that it wears itself out, or that it becomes in time relatively mild, by reason of the attenuation of the specific micro-organism.

Migration in the Treatment of Tuberculosis.—M. VERNEUIL presented a communication upon the influence exerted by a change of residence upon the development, progress, and termination of the different forms of tuberculosis. These migrations he divided into three classes: 1. Moving from the city to the country, urbi-rural emigration. This is often of great service in arresting the progress of the disease, but in order that this benefit may be permanent the patient must make his residence in the country continuous, and if he returns to the city at all, it must be for very brief periods only. 2. Moving from a large city to a smaller one, urbi urban migration. This is often of nearly as great utility as the urbi-rural change. 3. Going from the country to the city, ruri-urban migration, is fatal to great numbers. Every young man with phthisical tendencies living in the country should have it impressed upon him that to remove to the city is almost certain death.

Inoculation with Attenuated Cultures.—M. GRANCHER reported the details of some experiments he had made, with M. Hippolyte Martin, to determine the effects of inoculation with cultures attenuated by age. The authors had not succeeded in conferring an absolute immunity upon any one of the rabbits experimented upon, yet their investigations had demonstrated that there was reason to believe that a certain degree of protection against the tubercular virus was furnished by this same virus when attenuated.

M. PETIT then presented a report of the work accomplished by the first Congress, and the benefits to science that had resulted therefrom.

SECOND DAY, TUESDAY, JULY 28TH.

Identity of Human and Animal Tuberculosis.—This was the first question proposed for discussion. M. VIGNAL had made numerous experiments, as a result of which he concluded that the bacilli of animal and of human tuberculosis were not the same.

M. CHAUVEAU had inoculated cattle with human tubercular virus through the digestive tract by means of intravenous injections, and of subcutaneous injections, and was persuaded that there was but one disease, whether affecting men or cattle.

Tuberculosis of Fowls.—MM. STRAUS and GAMALEIA presented a communication upon this subject. There was, they said, an identity of form and of reaction to the aniline stains of the bacilli from human and fowl tuberculosis, yet the two bacilli were entirely different. The human bacillus does not grow at a temperature of 45° C. (113° F.), whereas this temperature is particularly favorable to the development of chicken bacilli. The pathological effects are also different, the dog readily taking human tuberculosis, but being very refractory to that of the fowl. Rodents are receptive to both varieties, but the results of inoculation differ according to the form of virus used, human tuberculosis producing tubercles, while that of fowls caused a peculiar sort of septicæmia.

M. ROGER followed with a paper on the same subject, relating the experiments made by himself and MM. Gilbert and Cadiot. The conclusions of the paper were that the two forms of tuberculosis were in the main distinct, and that human tuberculosis was, as a rule, innocuous to fowls, and fowl tuberculosis was not inimical to mammals; yet there were cases which seemed to show that one of these varieties might, under certain conditions, become transformed into the other.

Communications of similar import were made by MM. Courmont, Dor, Vignal, and others.

Treatment of Cold Abscesses by Iodoform Injection.—M. REDARD read a paper on this subject in which he described the method used by himself. He used oil as a vehicle for the iodoform instead of ether, the latter causing such painful distention. The results obtained were very good.

Injections of Dog's Serum in Tuberculosis.—M. HÉRICOURT related his experiments in this direction which he had been conducting since 1888. In cases of advanced tuberculosis no benefit had followed these injections, but in those of the second stage there was some apparent improvement, although the bacilli did not disappear from the sputum.

M. SEMMOLA was accustomed to give iodoform internally in doses of one-third gramme every two hours, and had lately employed injections of dog's blood (hemocyne). In mild cases he had observed considerable improvement, but had obtained no cures. He liked the method, however, and it possessed the great advantage that it never killed the patient. This little reference to M. Koch was received with vociferous applause.

M. PINARD showed a little girl upon whom he had operated for tubercular ascites, the presence of tubercles in numbers in the peritoneum being found at this time. In a short time the effusion returned, when the speaker employed injections of hemocyne, with the result of causing the disappearance of the fluid. The speaker had also made trial of dog's serum as a prophylactic in cases of children born of tuberculous mothers. He treated thus twenty-one new-born children weighing less than four pounds, and had only four deaths—which was much below the usual mortality of such infants.

Goat's Blood in Tuberculosis.—MM. BERTIN and PICQ reported the results of the injection of goat's blood in 114 cases, 300 injections being made. In ten cases abscesses resulted, and in about half there was urticaria, but the improvement in the morbid symptoms was evident and real.

M. BERNHEIM had also made a number of experiments with goat's blood, and was much pleased with the results obtained.

Tuberculosis in Infancy.—M. LANDOUZY read a paper on this subject in which he maintained that tubercular disease in infants was of much greater frequency than had usually been supposed, his experience being that one-fourth of all the babies dying at the Hôpital Tenon were tuberculous. He attributed this to the use of cow's milk, and in his service he always insisted that the milk used should be boiled.

Hereditary Tuberculosis.—M. VIGNAL presented a communication in which he held that the disease was rarely, if ever, inherited, but that it was, when occurring in infants, almost always, if not invariably, acquired.

M. HUTINEL said that so-called hereditary tuberculosis was generally recognized as a fact, but the question to be settled was, whether a child so affected was born tuberculous or only tuberculizable. Of 118 autopsies of children under one year of age, he had found evidences of tuberculosis in but four. After the first year the proportion of tuberculous children increases greatly, for at least thirty per cent. of children of two years have tubercular lesions. As regards mediastinal adenopathies, supposed by many to occur oftentimes without any other sign of tuberculosis, the speaker held that they were always preceded by pulmonary lesion.

DR. JACOBI, of New York, said that he had made an autopsy once on the body of a fœtus whose viscera were simply packed with tubercles. The case had been reported in America before, but he recalled it now as being of interest in connection with this discussion on inherited tuberculosis.

M. BERNHEIM said that the tubercle bacillus could gain access to the fœtal tissues only when vascular lesions of the placenta were present, and thus the disease was acquired by infection, and was not, strictly speaking, hereditary. As to the infection of the ovum at the moment of fecundation by tuberculous semen, the speaker thought it hardly possible, despite the instance reported by Baumgarten.

THIRD DAY, WEDNESDAY, JULY 29TH.

The members assembled in the forenoon at the Hôtel Dieu, where M. VERNEUIL exhibited several cases of Pott's disease and coxitis, in which tuberculous fistulæ and abscesses had been treated successfully by injections of iodoform in ether. The appearance of an abscess leading directly to the diseased structures in cases of tuberculous arthritis was very favorable to this treatment, as it permitted of the direct application of the iodoform to the lesion itself. In the course of his remarks, M. VERNEUIL said that in the thirty years of his surgical life he had performed resection of the hip for tuberculous coxitis only six times.

The Bacterial and Morbid Associations of Tuberculosis.—M. BABÈS, of Bucharest, opened the discussion on this question. He had made a number of investigations to ascertain whether all the microbes found in tuberculous lesions after death were there during life, or were the result of cadaveric decomposition, and had come to the conclusion that the pyogenic microbes were present in the lesions during the life of the individual. Sometimes, his experiments had shown him, the presence of these microbes prepared a previously unfruitful soil for the reception of the tubercle bacillus.

M. HALLOPEAU'S investigations had been made in the line of ascertaining whether these pyogenic bacteria were necessary for the production of suppurating tubercular lesions. He concluded that pus might be found in these cases without the intervention of these pyogenic microbes. The suppuration which had been seen to follow injections with Koch's lymph (a sterilized fluid) was another evidence that these micro-organisms were not essential to the production of pus.

A communication from MM. VERNEUIL and BERETTA was presented, referring to the fact that a cold abscess often heals up after active inflammation has been set up by an invasion of pyogenic microbes, and raising the question whether the pus bacteria might not possibly be destructive of the tubercle bacilli.

M. ARLOING instanced, as negativing this question, the fact that inoculations with tubercle bacilli taken from centres of active inflammation were very constantly productive of the disease.

A Hybrid Lesion.—M. LELOIR exhibited photographs of a tuberculous patient who was attacked with syphilis. He had lesions of the skin resembling lupus, which were considerably modified by antisyphilitic treatment.

The Infection of Dwellings.—M. OLIVIER reported several cases in which healthy individuals became tuberculous after taking up their residence in apartments previously occupied by tuberculous persons. He thought the contagiousness of tuberculosis, and the great necessity of thorough disinfection of dwellings lately inhabited by the subjects of phthisis, were points upon which too little insistence was placed by physicians and the sanitary authorities.

Influenza and Tuberculosis.—He said that inquiries addressed to various physicians in many parts of the world, had brought out the fact that influenza and tuberculosis were aggravated one by the other. When the grip attacked those already suffering from tuberculosis the original trouble was made much worse; and many cases were reported in which acute phthisis made its appearance after an attack of the influenza.

M. TAPRET presented a communication upon the good results obtained in the treatment of tuberculosis of the respiratory organs by means of medicated compressed air. The method employed by him had been demonstrated to the members of the Congress on the first day of the session, at the Hôpital Saint-Antoine.

M. GIMBERT said that he and Professor Bouchard had been the first to recommend creasote in the treatment of tuberculosis. He employed it now by subcutaneous injection, in order to avoid derangement of the stomach. MM. BURLUREAUX, GUERDER, and VIGENAUD had all used creasoted oil as recommended by M. Gimbert, and had been greatly pleased with the results obtained.

The Nature of Lupus Erythematosus.—MM. HALLOPEAU and JEANSELME reported the case of a man suffering from typical lupus erythematosus, and at the same time tuberculous adenitis. He died of acute miliary tuberculosis. Microscopical examinations, cultures, and inoculations proved that bacilli were present in the miliary lesions and in the diseased glands, but not in the lu-

pus tissue. Notwithstanding this and similar experiences, the authors believed that lupus erythematosus was a variety of tuberculosis, the virus, however, being in a much more attenuated form than it is in lupus vulgaris.

MM. LELOIR and LESPINE presented a communication upon certain forms of lupus and the micro-organisms associated therewith.

(To be continued.)

THE BRITISH MEDICAL ASSOCIATION.

Fifty-ninth Annual Meeting, held at Bournemouth, July 28, 29, 30, and 31, 1891.

(From our Special Correspondent.)

SECTION ON SURGERY.

FIRST DAY, WEDNESDAY, JULY 29TH.

THE President, MR. J. WARD COUSINS, in opening the Section with an address on "Recent Advances in the Treatment of Tubercular Diseases of Joints," said that great advances had been made in our knowledge of the pathology of tubercle in the past fifty years. He traced this advance and its influence on the treatment of external tuberculosis up to the time when Koch's recent discovery seemed at first likely to revolutionize our treatment.

Koch's Method in External Tuberculosis.—MR. WATSON CHEYNE then opened the discussion on this subject. He said that he had for some time given up his wards at King's College Hospital, London, to cases of tuberculosis, and referred to the results of his experience, which had been fully recorded at the Medico-Chirurgical Society in April last. Tuberculin was a remarkable substance, but there were grave objections to its use which went far to counterbalance the benefits conferred by it. The specific fever and inflammatory reaction were often so great that patients lost flesh and were markedly pulled down after the first fortnight's treatment, as much so as though they had suffered from one of the acute exanthems for the same space of time. The local inflammation was also a source of danger, especially where the disease manifested itself in internal organs such as the larynx or meninges, where swelling was fraught with peril, and this local inflammation, by rendering tissues more vulnerable, might cause a spread of the disease and predispose to fresh infection. Mr. Cheyne had, however, observed no instance in his own practice either of infection of previously healthy parts or of acute general tuberculosis, as a result of the injections.

Then, although Koch had claimed that the treatment would confer immunity from future attacks, experience had shown that it did not do so, but that in some cases it predisposed to fresh disease, and that as soon as the treatment was discontinued, rapid relapse would happen, so that the patient would be in a worse case than before.

Experiments on guinea-pigs showed that if one of two animals was treated by a course of injections of tuberculin, and afterward both animals were inoculated with tuberculous tissue, the previously inoculated animal would develop more acute tuberculosis and die sooner than the other one.

Koch had admitted that tuberculin contained various substances, but stated that, while only one of these substances was of curative value, the others were innocuous. There was great reason to believe, however, that to some of these secondary substances the objectionable effects of tuberculin were due.

Modifications of Tuberculin.—DR. W. HUNTER, who had been engaged in analyzing Koch's fluid, joined with Mr. Cheyne in a series of clinical tests of the various bodies contained in it. Dr. Hunter found that on adding alcohol to tuberculin, a precipitate was produced consisting of proteids with a little glycerine and some salts. This for distinction he would call A. The filtrate, which might be called C, consisted of salts with a little proteid matter, which last might be further distinguished as C B. Messrs. Cheyne and Hunter had treated cases with the filtrate C, and found that it produced fever without the local reaction which is so marked a result of tuberculin.

In a case of lupus, the temperature reached 104° F. after six hours, falling to normal after a few hours more. Rigors generally accompanied the pyrexia, but there was no nausea or pain. Each time the injection was repeated a rise of temperature occurred, gradually diminishing until at length no fever followed the injection. Instead of the violent local inflammation of tuberculin, the lupus patches showed a gradual scaling and drying up.

It appeared to the observers that C contained the remedial substance, but that it was mixed with some pyrogenic material which was eliminated in the proteid of the filtrate, *i.e.*, C B. Clinical experiments were therefore next made with this. A case of lupus treated by injections of C B healed in three weeks. Twenty milligrammes were given twice a day without producing fever, malaise, or any bad symptom. In a child, the highest temperature reached was 100° F.; sometimes the temperature was subnormal, but ranged in the cases observed between 97.4° F. and 99.4° F.

It appeared probable that the most effective and least objectionable substance was contained in C B, and was an albumose which might be designated B. Dr. Hunter had isolated this by a process described in his paper on the subject in the *British Medical Journal* of July 25th. This substance was found to produce no general reaction or pyrexia, although it produced a local reaction which was followed by a secondary rise of temperature. This (B) was employed in two cases; in one of lupus of the neck, doses of from two to ten milligrammes were employed. The ulcers healed and the patient was much improved. The other case was one of arthrectomy of the hip, in which the injections were employed with good effect to hasten the healing of a sinus. To sum up: all four injections had a remedial action. The filtrate C was satisfactory, but for the fever it produced. The proteid E of the filtrate (C B) was better still, but slow in its effects. The precipitate A had all the bad qualities of tuberculin. The albumose B gave the best results of all. Mr. Cheyne thought that provisionally C or C B should be used in lupus, combined with operative measures, and also in those cases of joint diseases in which the operation wounds do not heal. In genito-urinary tuberculosis, tuberculin was too dangerous, but C B might be used with safety.

There was no reason why we should refrain from removing tubercular tissue by operation, but this should, when possible, be combined with injections of C B.

Dr. William Hunter said that albumose was an intermediate product between albumin and peptone. He adverted to the laborious nature of the investigation that he had undertaken, and regretted that the secrecy observed by Koch had much hampered him in his work. Koch's statements, that there was one active principle in his fluid, and that local inflammation was essential to its curative action, were now seen to be erroneous. It was scarcely likely that tuberculin would confer immunity from future attacks of tubercle, as claimed by Koch, seeing that phthisis itself did not confer such immunity. As large doses are useless to procure immunity, Dr. Hunter thought that smaller ones should be used, and the attempt to render the patient invulnerable abandoned.

DR. PRINGLE congratulated Mr. Watson Cheyne and Dr. Hunter on their work, and said that in his opinion they had made the sole advance in our knowledge of the subject since Koch's discovery was announced. In lupus neither local nor general reaction was essential to cure. He had used C and C B on four lupus cases at the Middlesex Hospital, being in ignorance of the nature of the fluid and its expected effects. His experience resembled that of Mr. Watson Cheyne. One case, after thirty-nine injections, had left the hospital cured. This

patient had previously been unsuccessfully treated by tuberculin.

MR. KEETLEY said that this question was entering on a new phase. He had meant to read notes of cases treated by him during the past year, which confirmed for the most part Mr. Cheyne's experience, but after the important communication of Messrs. Cheyne and Hunter he concluded not to do so. He used small doses, and in general his results were favorable, but in one case the wound broke down after union had taken place. The patients' general health had improved during treatment, with one exception.

The speaker considered that it was far too early yet to estimate the value of Koch's discovery.

MR. JORDAN LLOYD had used tuberculin in seventeen cases, and was then quite satisfied that it was worthless, and he had ceased to employ it. Koch's fluid was, no doubt, a remarkable one, and most interesting to the man of science, but it was more than disappointing to patients. The improvement was always transient, and the final state of the patient worse than before. It had also no diagnostic value, as it had given no reaction in patients proved to be tuberculous, while in healthy persons he had seen the "characteristic" reaction. In his opinion it was a dangerous poison, and he felt it to be his duty to come there and speak of its disastrous effects. He had had two fatal cases. In one of these, of enlarged glands with slight doubtful chest signs which the physicians considered did not forbid injection, the patient developed acute miliary tuberculosis after three injections of three milligrammes of tuberculin. He would like to hear of good results, but he was sadly disappointed.

MR. ODELL said that he had not intended to speak in this discussion, but as Mr. Jordan Lloyd had expressed a wish to hear of the good results of tuberculin, he would tell of his experience. This came from two cases of advanced joint disease, in one of which amputation of the thigh had been urged but refused by the patient. This patient now walked without crutches. The other case, of disease of the wrist-joint with pulmonary phthisis, was now nearly cured. He had also cured a case of lupus with the fluid. He gave from 5 milligr. to 5 ctgr., and thought that in most cases the injections had been repeated at too short intervals. He believed that the remedy was all that Koch had said it was, but that it was not all that his too zealous disciples proclaimed it to be.

The discussion was continued by Mr. Morton, Dr. McNeil, and the President. The latter said that he had found tuberculin useful combined with operation in lupus, but not of much value in joint disease.

MR. WATSON CHEYNE, in reply, said that he did not think Mr. Jordan Lloyd's disparaging remarks were justified, even by his own cases as narrated by him. He was afraid that a cure could not often be looked for, but he deprecated any hasty resolve to discontinue injections because they did not cure. As long as they were palliative or hindered the disease, they should be persisted in, just as non-curative treatment by drugs such as the bromides was persisted in in epilepsy.

Prognosis of Lateral Curvature.—MR. GOLDING BIRD read a paper on the limits of curability of scoliosis. He said that it was important to be able to answer the questions, "How far is scoliosis curable?" and, "How far is any given case curable?" as our treatment must depend largely on the answers we could give. There were some exceptional cases that defied prognosis, but in most cases an answer could be given. In the rachitic cases, where the disease was due primarily to bone troubles, cure was not to be expected when rotation was obvious. In non-rachitic cases the prognosis would depend on whether or no secondary bone deformity had supervened on the primary ligamentous lesions. These non-rachitic cases were curable in their early stage, and the result of suspension would guide us in making a prognosis. In bad incurable cases subjective symptoms alone could be relieved or mitigated.

MR. NOBLE SMITH deprecated, as causing irreparable harm, the tendency of so many surgeons to tell parents that their children would "grow out of" this deformity, in the earliest stages, when alone it is curable. He considered that light steel supports were the best. The paroplastic jacket was utterly unsuited to these cases. The surgeon should keep the mechanical treatment in his own hands just as much as he would that of a broken limb.

Treatment of Pott's Disease.—MR. NEVITT read notes of a case of "Pott's Disease of the Dorsal Spine" occurring in his own daughter, aged seven, and showed an ingenious "hammock ambulance," and a modified go-cart, which he called a pedambulator, in which the patient was able to walk about while still undergoing moderate suspension. Mr. Nevitt also showed the steel support that he had devised for this case.

MR. NOBLE SMITH said that Mr. Nevitt's apparatus was most ingenious, but that all attempts to walk were unjustifiable pathological experiments. Recumbency was the best treatment. Mr. Watson Cheyne thought that walking should not be allowed, as it prevented physiological rest of the muscles. Extension secured this rest by overcoming tonic spasm, and in paralysis rendered laminectomy generally needless.

MR. FREER adhered to the use of Sayre's jacket, with which he had got the best results. The President said that he had found extension most useful.

MR. NEVITT in reply said that the patient was paralyzed in the lower limbs when put into his pedambulator, but was able after three weeks to propel herself unaided. This he considered a sufficient answer to Mr. Noble Smith's objections. He thought that the extension of the spine produced by a badly fitting support had caused the paraplegia. This was the first case of Pott's Disease that had come under his care.

SECOND DAY, THURSDAY, JULY 30TH.

Relation of Floating Kidney to Hydronephrosis.—MR. R. CLEMENT LUCAS read a paper on this subject. He remarked that probably many of the so-called phantom tumors of twenty years ago, and those tumors which were then ascribed to localized muscular contraction, were probably movable kidneys, which often elude observation, being obvious at one time and at another being beyond the reach of examination. Movable kidneys might be divided into two groups, according to their relation to the peritoneum. When we examined the connections of the kidney with surrounding parts it became matter of wonder not that a floating kidney should sometimes exist, but that it should not be much more common. The kidney had no proper ligaments, it was surrounded by constantly moving parts, and the amount of fat around it and between it and supporting tissues was liable to great variation.

It was a well-observed fact that movable kidney was commonest in women, and that the right organ suffered much oftener than the left. The object of the present paper was to draw attention to the fact that mobility of the kidney most frequently leads to hydronephrosis and destruction of the organ as an excreting apparatus. The speaker then referred to the symptoms caused by the condition which had often been mistaken for biliary colic. He had known melancholia and mania to supervene, but cease on the removal of the offending organ. Hydronephrosis in movable kidney was caused either by twisting of the ureter or by the pressure of the misplaced or enlarged organ on it. Experience had recently forced him to the conclusion that the use of belts, trusses, and such like palliative measures were not enough, that the kidney was doomed unless a radical operation was performed. He would advise operation in all cases of movable kidney. If the secreting structure of the organ was found to be all destroyed the remains of the viscus should be removed; if it were found to be unimpaired or only partially destroyed nephrorraphy should be performed.

Surgery of the Nasal Cavities.—Mr. Walsham then read a paper on the present position of intra-nasal surgery. He said that twenty years ago this branch of surgery had no special literature and was treated as an insignificant part of surgery, but now the literature of the subject was voluminous, and specialists existed who confined their attention entirely to the diseases of the nasal cavities; indeed he knew of one surgeon who was said to restrict his practice entirely to the morbid conditions of the septum narium, and he had heard that this had even proved to be too wide a field, and that a certain portion of the septum only would in future engage this gentleman's sole attention. In the United States, too, there was a rhinological association. The speaker said that some years ago no one could read a paper or produce a specimen at the Pathological Society but some ophthalmologist would start up and inquire as to the condition of the optic disk, so that it became proverbial that, no matter what the morbid condition or its seat, the surgeon must be prepared to say that he had carefully examined the fundus oculi. Nowadays this tender inquiry after the disk appeared likely to be replaced by the question, "Have you looked into the nose?" There was, in his opinion, a tendency to exaggerate the importance of the organ and to ascribe effects to the condition of the nasal cavities that were due to other causes. As to nasal reflexes, the speaker said that they had been described by ardent rhinologists as occurring in almost every organ of the body, with the exception, perhaps, of the spleen. That the histological resemblance between the spleen and the posterior spongy body had escaped the notice of rhinologists was, however, somewhat surprising.

He confessed that he was skeptical as to the existence of these reflexes, and thought that the cases observed were far too few for safe generalizations to be based on them.

(To be continued.)

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, June 4, 1891.

Alfred L. Loomis, M.D., President, in the Chair.

The Pathology of the Eclampsia and Albuminuria of Pregnancy.—Dr. Richard Van Santvoord read a paper on this subject (see p. 197).

A Single Theory Insufficient.—Dr. H. C. Coe thought it was impossible to reconcile the various phenomena of the albuminuria and eclampsia of pregnancy with a single theory. Looking at the question from the stand-point of the general practitioner, it seemed evident that there must be different forms of albuminuria. While there were some cases of eclampsia and albuminuria which might be explained on the basis of a toxæmia, others disclosed chronic disease of the kidneys which had not been suspected before. He had in mind particularly pyelitis. In one case he found chronic pyelitis caused by pressure on the ureter, and he had seen several other cases due to one cause or another, in two the eclampsia proving fatal. For this reason he felt that the theory of mechanical obstruction could not be entirely set aside.

The Neurotic Theory.—With regard to the character of the patient, he said that the neurotic were most likely to have eclampsia. Young unmarried girls entering the maternity hospital suffered more or less mental distress, were apprehensive, and were more likely to have eclampsia, looking at the subject from the view of a reflex condition, than were other patients. The author had referred to the sudden appearance and disappearance of a large amount of albumin from the urine without apparent cause, and those who had had experience in maternity hospitals must have seen cases in which without warning eclampsia had developed, and then albumin was noticed for the first time. He had been accustomed to place more stress upon some diminution in the amount of urine passed as a warning symptom than on any other. Regarding Dr. Van Santvoord's case, he thought the radiating pains down the groin, etc., made it not improbable that pressure had a good deal to do with it, and asked if pyelitis might not have been present.

Leans toward Osthoof's Theory.—Dr. W. T. Lusk recalled the fact that when Braun's theory was propounded years ago, that puerperal convulsions were due to kidney trouble, certain objections were offered, and those objections, he said, had not been answered unto this day. It had not been explained, for instance, why some patients had convulsions whose kidneys were known to be normal. Nor had it been explained why some persons having kidney disease went through pregnancy without having any convulsions. Again, there might be complete suppression of urine, consequently a large amount of urea circulate in the blood, the patient might even die, yet have no convulsions. It seemed to him that Osthoof's theory offered a more satisfactory explanation of all the phenomena than any other. According to this theory, where a convulsion took place in connection with the sudden stoppage of urinary secretion during pregnancy, it was due to reflex influence. First, there was contraction of the uterus, this in one case causing through the sympathetic system contraction of the arterioles in the kidneys and stoppage of urinary secretion; or the stimulus might be conducted directly to the medulla oblongata; or, again, through the vaso-motor centres, cause contraction of the arterioles of the brain and produce anæmia. This theory would explain the cases in which the renal symptoms were prominent and those in which they were not; it would explain the condition of the pulse, the convulsions, and other phenomena. It did not deny the gravity of the suppression of the urinary secretion. But where the kidneys acted freely there was reasonable hope of life. Dr. Lusk added that when convulsions developed, the important thing to do was to empty the uterus. Veratrum, chloral, etc., were only temporary expedients.

Significance of Arterial Tension.—The President said that in his experience with eclampsia and the albuminuria of pregnancy, which had been gained mostly some years ago, one fact had impressed him in particular, namely, that the danger to the patient depended upon the amount of arterial tension. If there were markedly high tension in connection with temporary or permanent presence of albumin in the urine during pregnancy, it seemed to him always an indication of very grave danger. He had noticed that in chronic disease of the kidneys with albuminuria it was patients who had low arterial tension who passed through pregnancy in safety. Now, there were so many other conditions in which high arterial tension was present without evidence of renal disease, that we must look for other conditions than faulty urinary elimination as the cause. It was worthy of remark that in certain people there were conditions which would produce high arterial tension which would not produce it in others. For instance, one man might eat a hearty meal, take with it a stimulant, and experience afterward no arterial tension, while another man partaking of the same meal and same wines would have high arterial tension. Of these two men, continuing in this course, one would have his life cut short, while the former might continue to live to a good age. It was a physiological condition which impressed on one individual the possibility of high arterial tension from a cause which would not produce it in another. It seemed, therefore, that eclampsia could not be explained solely upon the basis of renal disease.

Dr. Van Santvoord reviewed some of the facts in his case in support of the explanation which he had offered, which he thought would hold good even if pyelitis were present in one kidney as he suspected it might be. Regarding high arterial tension, all writers had looked upon it as an important factor in these cases, some ex-

plaining it on the basis of a toxæmia, others on that of reflex influence.

The Academy adjourned until the first Thursday in October.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY — DEATHS OF DR HUNTER SEMPLE AND DR. HENRY BENNET—AN INSURANCE CASE OF MEDICAL INTEREST — THE ARTIFICIAL PRODUCTION OF DENTAL CARIES.

LONDON, August 8, 1891.

THE forthcoming event is the meeting of the International Congress of Hygiene and Demography. This is looked forward to with considerable interest as, although several sanitary congresses have taken place in this country, the present is the first *international* gathering of its kind to meet in England. The International Congress of Hygiene is of quite modern origin—the first of these Congresses having met in Brussels only in 1876. The Congress will open on Monday next, under the presidency of the Prince of Wales, and will last five days. The morning of each day (except Monday) will be devoted to the reading of papers. Those announced are already so numerous that it would appear an impossibility for even half of them to be read. The work of the Congress, however, is to be divided among ten sections. Nine of these are in the division of Hygiene which will therefore obviously take the front place in the Congress.

Two veteran members of the profession have just passed away, viz., Dr. Robert Hunter Semple and Dr. James Henry Bennet. Their united ages amounted to a hundred and fifty years—the former dying in his seventy-sixth, the latter in his seventy-fourth year. Dr. Semple practised for many years as a physician in the Bloomsbury district, where he remained till his death, though it has long ceased to be a medical neighborhood. A son follows him in the profession.

Dr. Bennet's career was in some respects a very singular one. About a quarter of a century ago he practised in London as a physician and devoted his attention specially to gynecology. In this department he speedily attained a large and lucrative practice. Dr. Bennet had a particularly attractive manner with patients and I have heard that it used to be said of him that such were his gifts in this direction that if he were set down in the middle of Salisbury Plain he would find patients waiting to see him next morning. In the midst of his success he was struck down with pulmonary phthisis. He gave up his practice and retired to Mentone, in order that, as he expressed it, he might, like a wounded hare, die in a quiet nook. Instead of dying, however, he regained health and strength and was able to resume practice. Dr. Bennet spent a portion of the year in England but most of his professional work was carried on at Mentone, where he continued to resort every winter and where he ultimately obtained a considerable practice among the winter residents. His later writings were chiefly on climate, of the value of which in suitable cases of pulmonary consumption he was himself such a signal illustration. The growth of the Mediterranean resorts—and especially Mentone—has been largely due to his advocacy. In Dr. Bennet's youth the old notions as to cases of consumption being hopeless were still prevalent, but he lived long enough to see a complete change of front as to this. Within his time, also, the views formerly current as to the climatic treatment of the disease became considerably modified—as witness the rise of Davos and other Alpine resorts. Dr. Bennet retired from practice a few years ago and spent the close of his life at Vintimiglia—a few miles from Mentone.

An insurance case of medical interest has just been decided by the law courts. A man sixty-six years of age, who was insured for the sum of one thousand pounds against death from accident, fell down on the frozen pavement two months before his death. He was severely bruised and had melæna three days afterward. A day later vomiting of coffee-ground matter occurred. He continued to vomit and pass blood for about three weeks after the accident. These symptoms then ceased, but he died from exhaustion eight weeks after the fall. Two medical men certified that death was due to exhaustion from hemorrhage caused by the fall. The patient, however, had suffered for two or three years from gastric symptoms, and malignant disease had been suspected. On a post-mortem examination being made this suspicion was confirmed, for a cancerous growth was found at the pylorus. The insurance company thereupon repudiated their liability, but the widow brought an action against them and the medical men who had given the certificate maintained that the hemorrhage was not due to the cancer but to the fall. This view was endorsed by the jury, who returned a verdict against the company—a verdict which seems especially unfair in view of the fact that it was a condition of insurance with the company in question that the insurer should declare that he was not the subject of any disease, and that he should renew his policy year by year on this condition.

At a recent meeting of the Odontological Society, Mr. Henry Sewill read a paper in which he stated that he had, as the result of experiments, found that the best agent for the artificial production of dental caries was a mixture of bread and saliva.

New Instruments.

CONVENIENT METHOD OF APPLYING THE PLASTER-OF-PARIS BANDAGE TO FRACTURES OF THE LEG.[1]

By GEORGE W. KING, M.D.,

HELENA, MON.

FOR some time past I have used the plaster-of-Paris dressing for recent fractures of the leg in preference to other forms of retentive apparatus, and I am sure that those who trust to ordinary splints in these fractures would gladly exchange them for a dressing that could be made to fit the limb perfectly, and could not become disarranged during the absence of the physician. The plaster splint, skilfully applied, fulfils the conditions very well. It affords a firm, even support to the limb, relieving muscular spasm and limiting the amount of swelling to a re-

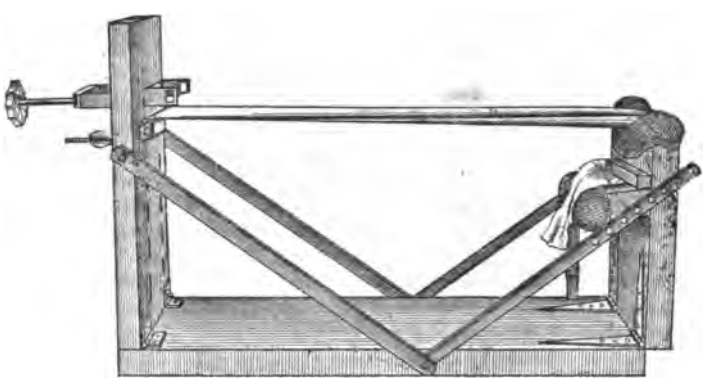

FIG. 1.

[1] Abstract of a paper read before the Montana State Medical Association, May 29, 1891, at Helena, Mon.

markable degree. The principal objection to its use in recent fractures, is the difficulty of maintaining the limb in proper position during the application of the plaster. The tendency of the fragments to slide past each other during

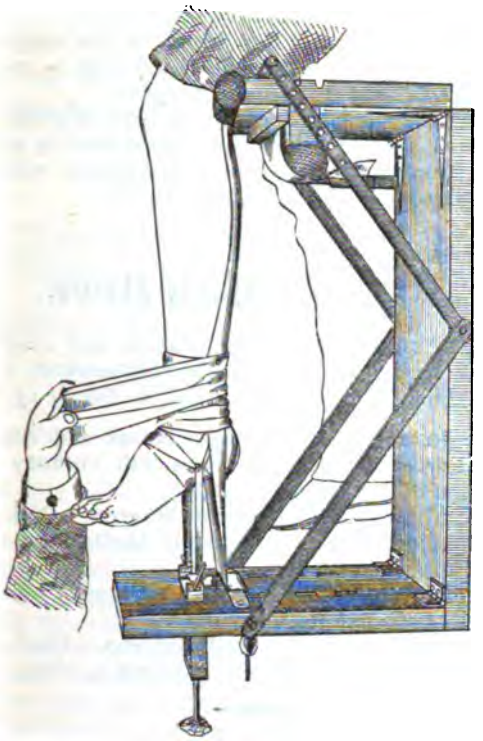

FIG. 2.

the process of bandaging is so great, that it is impossible to prevent overlapping, even by the aid of skilled assistants. Steady, continuous tension, kept on until the plaster hardens, gives the best results.

To facilitate the application of the plaster-of-Paris bandage. I have devised a method of extension and

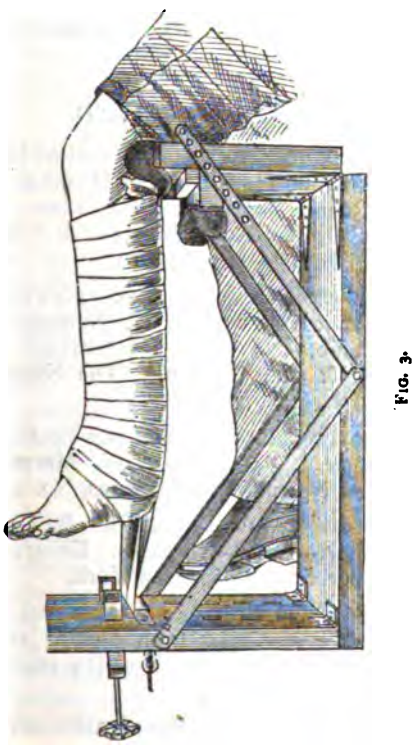

FIG. 3.

counter-extension that has proved a valuable aid. It consists essentially of a framework, over which is drawn a strip of canvas, and upon it the limb rests (Fig. 1). Extension is made by means of a bandage around the ankle, arranged in the form of a clove hitch, the free ends being fastened to the extending bars (Fig. 2). The counter-extension is made by the shorter upright piece of the framework pressing against the under surface of the thigh. The thread of the extension screw is fine enough

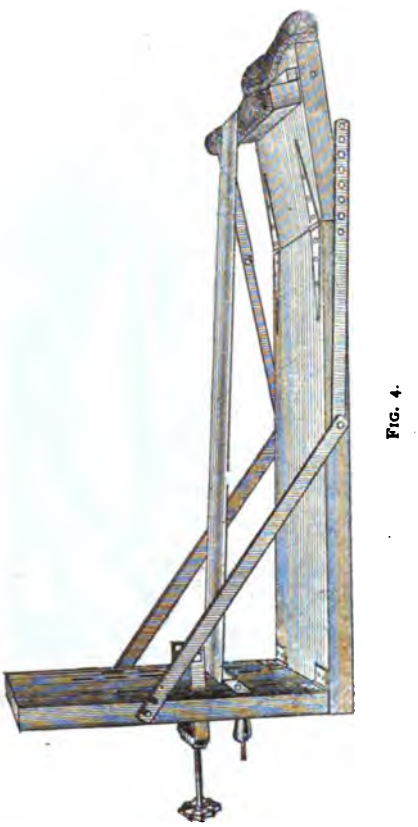

FIG. 4.

to make the traction steady, avoiding jerking movement. In this position every portion of the limb is accessible; and there is no need for undue haste, as the patient is

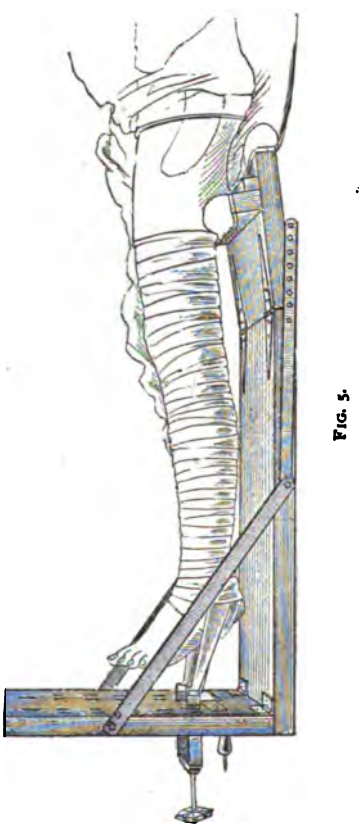

FIG. 5.

comfortable and therefore quiet—conditions most favorable for doing the work well.

To prepare the instrument for use, first cut a slit in the

canvas where the heel rests, to permit a more accurate adaptation of the limb. A piece of sheet wadding should then be placed upon the canvas, and after the limb is in

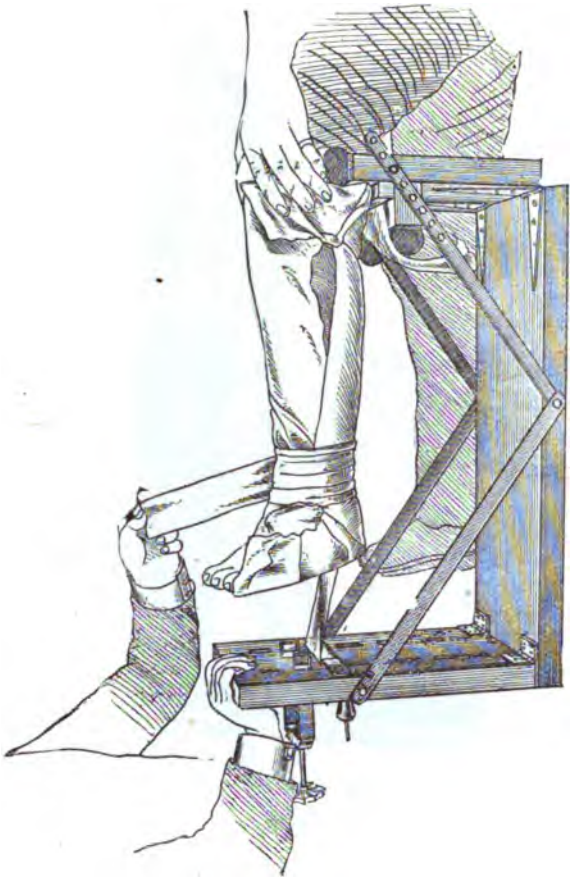

Fig. 6.

position, folded neatly and evenly around it. The plaster-of-Paris bandage can then be applied over all, including the canvas. The latter serves to strengthen the posterior part of the splint. Fig. 3 shows the splint *in situ*.

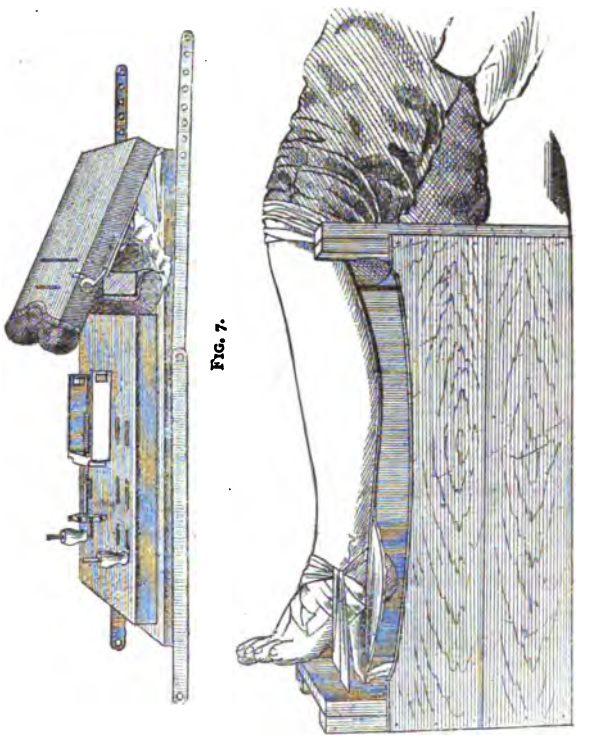

Fig. 7. Fig. 8.

When it becomes necessary to carry the splint above the knee, the extension apparatus can readily be arranged for the purpose by lowering one end to a nearly horizontal position (Fig. 4). Figure 5 shows splint applied above the knee.

This form of extension is not limited to the application of the plaster bandage; it is equally available in applying ordinary splints made of wood, leather, or pasteboard (Fig. 6). Fig. 7 shows the machine folded for transportation in a buggy. In the absence of this special apparatus, one can be easily extemporized from a common drygoods box. Fig. 8 illustrates the plan.

I believe the advantages of this method of putting up fractures of the leg will be duly appreciated by all who take the trouble of acquainting themselves with the details necessary to its proper use.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 9, 1891, to August 15, 1891.

BAILY, JOSEPH C., Lieutenant-Colonel and Assistant Medical Purveyor. Granted one month ordinary leave, in extension of sick leave.

GANDY, CHARES M., Assistant Surgeon. Will, upon the final adjournment of the Army Medical Board, resume his leave of absence.

DEWITT, THEODORE F., Assistant Surgeon. Granted sick leave of absence for thirty days.

COCHRAN, JOHN J., Assistant Surgeon. Died at St. Luke's Hospital, New York City, August 5, 1891.

Official List of Changes in the Medical Corps of the United States Navy for the week ending August 15, 1891.

BAKER, J., Passed Assistant Surgeon. Detached from the Palos and authorized to delay reporting in the United States for six months.

SAYRE, J. S., Passed Assistant Surgeon. Detached from the Ranger and ordered to the Palos.

MEANS, V. C. B., Passed Assistant Surgeon. Ordered to the New York Naval Hospital, September 1st.

BOOKS RECEIVED.

NORRIS'S NURSING NOTES: A Manual of Medical and Surgical Information for the Use of Hospital Nurses and others. By Rachel Norris, R.R.C. 12mo, 184 pages. Illustrated. Sampson Low, Marston & Co., London. (The Nursing Record Series, No. 2.)

A MANUAL OF PRACTICAL ELECTRO-THERAPEUTICS. By Arthur Harries, M.D., and H. Newman Lawrence, M.I.E.E. 12mo, 129 pages. Illustrated. Sampson Low, Marston & Co., London. (The Nursing Record Series, No. 3.)

MASSAGE FOR BEGINNERS. By Lucy Fitch. 12mo, 31 pages. Illustrated. Sampson Low, Marston & Co., London. (The Nursing Record Series, No. 4.)

BACTERIA AND THEIR PRODUCTS. By German Sims Woodhead, M.D. 12mo, 459 pages. Illustrated. Price, $1.25. Scribner & Welford, New York.

THE MOTHER'S HANDBOOK: A Practical Treatise on the Management of Children in Health and Disease. By Levin J. Woollen, M.D. 8vo, 419 pages. Everett Waddey Co., Richmond, Va.

THE FIRE PROTECTION OF HOSPITALS FOR THE INSANE. By L. H. Prince, M.D. 8vo, 122 pages. Illustrated. C. H. Blakely & Co., Chicago, Ill.

THE PATHOLOGY, DIAGNOSIS, AND TREATMENT OF INTRA-CRANIAL GROWTHS. By Philip Coombs Knapp, M.D. 8vo, 165 pages. Illustrated. Damrell & Upham, Boston, Mass.

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Original Articles.

THE USE OF COMPRESSED AIR IN CONJUNCTION WITH MEDICINAL SOLUTIONS IN THE TREATMENT OF NERVOUS AND MENTAL AFFECTIONS.

BEING A NEW SYSTEM OF CEREBRO-SPINAL THERAPEUTICS.

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NEW YORK,

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To merely facilitate the introduction of medicinal agents into the system by way of the air-passages, in the form of gases medicated or non-medicated, has heretofore constituted the principal motive among physicians for invoking the aid of compressed air. The experiments of Paul Bert with nitrous oxide and oxygen gas, performed over fourteen years ago, and the more recent proposals of Sée, are illustrations in point.

The objects of which I have been in search are quite different from the foregoing, and have reference not to the introduction of the remedy, but to the enhancement of its effects after exhibition. Let me be more explicit on this point, by stating at once that, in contra-distinction to my predecessors, I shall endeavor to show that, by far the most useful service derivable from compressed air is found in its ability to enhance and perpetuate the effects of soluble remedies (introduced hypodermically, by the mouth, or otherwise) upon the internal organs, and more especially upon the cerebro-spinal axis. Some chemical affinity between the remedy employed and the protoplasm of the nerve-cell is, of course, assumed to exist; and it is with the enhancement of this affinity—this bond of union between the medicinal solution and the nervous element, that we shall chiefly concern ourselves in the following discussion.

By way of introduction, I may recall the fact that my attention was directed several years since to the advisability of devising some means by the aid of which medicinal substances, and more especially anæsthetics, might be made to localize, intensify, and perpetuate their action upon the peripheral nerves. The simple problem in physiology and mechanics involved in this question I was fortunate enough to solve quite a long time ago; and I must confess that in the retrospect these undertakings in themselves do not seem to me of great magnitude, though in their practical application their significance appears more considerable. Herein lies, it may be, the explanation of the interest which these studies excited in the profession at the time of their publication. These things are, however, a part of medical history; and I merely refer to them at this time because they have led me to resume the solution of a far greater problem—that of intensifying, perpetuating, and (to some extent at least) localizing the effects of remedies upon the brain and spinal cord. I speak of resuming these studies because, as far back as 1880 and 1882, I made some attempts—albeit rather abortive—in the same direction.

In constructing the argument for the following study, I am beholden more especially to three facts, the knowledge of which came to me as the direct result of experimental tests. One may place confidence, therefore, in the procedure which I have based upon these premises, for at no point, I think, in the following argument will mere affirmation be found to have usurped the place of sound induction. Without anticipating further, then, let me specify as briefly as may be the nature of these facts.

Premises of Argument. *First Fact.*—The amount of ether, chloroform, chloral hydrate, the bromides, strychnine, and many other remedies, required to produce physiological effects upon the cerebro-spinal mechanism, may be reduced by first securing a ligature around the central portion of one or several of the limbs of an animal, so as to interrupt both the arterial and venous circulation.

The proof and explanation of this may be thus presented:

In the first place, it is well known that children and small animals are affected by much smaller quantities of anæsthetics and other medicinal substances than are required to produce equal effects in men and large animals.

At first sight, there appears to exist a certain definite relation between the weight of the animal and the quantity of medicament required to produce physiological effects. On closer inquiry, however, we find behind this proposition the deeper truth that the real proportion is between the magnitude of the blood-mass and the amount of medicament. Thus, if we withdraw a considerable amount of blood from a large dog, we may be able to affect him by much smaller doses than those required under ordinary circumstances; and, among human beings, we find the anæmic much more susceptible to remedies than the full-blooded of equal weight.

The degree of saturation of the blood-mass with the remedy is obviously, then, the principal thing; the greater the amount of blood, the more remedy—everything else being equal—we shall have to give in order to obtain definite results.

If we wish to embody the proposition in a mathematical statement, we may do so in the following simple manner:

Let a represent the total quantity of blood, b the amount of remedy exhibited, and x the magnitude of the physiological effect. We shall then have the simple formula, $x = \frac{b}{a}$.

Again, if we withdraw a certain quantity of blood from the circulation by venesection, and call that amount d, we shall then have the formula, $x = \frac{b}{a - d}$. But, if we wish to act upon the organs of the trunk, and more especially upon those contained within the cerebro-spinal canal, it is not necessary to resort to such a drastic expedient as copious blood-letting; for, in place of this, we may dam up and effectually eliminate from the rest of the body a certain amount of blood by passing a ligature around the central portion of one or several extremities, so as to interrupt the circulation in both artery and vein. When this has been done it is clear that we may introduce a remedy into the system by way of the stomach, or hypodermically into some portion of the trunk; and it is equally certain that a remedy so introduced will be diluted only in the ratio of the amount of blood freely circulating, and more especially by that contained within the trunk and head. That which is incarcerated behind the ligatures is as effectually withdrawn from the realm of physiological action as though it had been abstracted

by the surgeon's knife. Elimination by the knife and elimination by the ligature are, for present purposes, then, one and the same thing. Hence, if we let d' represent the amount of blood incarcerated behind the ligatures, x the magnitude of the physiological effect which we are seeking, b the amount of remedy exhibited, and a the total amount of blood contained in the whole organism, we shall have the formula, $x = \frac{b}{a - d'} = \frac{b}{a - d'}$.

Several years since, I had an excellent opportunity of proving the truth of the foregoing, in connection with the administration of ether in the case of a patient who resisted all attempts to anæsthetize him in the ordinary way.

The case in question was a man under treatment at the Manhattan Eye and Ear Hospital, upon whom it was deemed advisable to perform an operation. As has been said, the ordinary means of inducing anæsthesia had proven ineffectual, for the man was a confirmed drunkard; and it was at this juncture that I was called in consultation and requested by my friend, Dr. David Webster, one of the surgeons of the hospital, to endeavor to devise some means of getting the man under the influence of the anæsthetic.

The procedure which I suggested was this:[1] Around the upper part of each thigh a flat rubber tourniquet was tightly drawn and secured in place in the usual manner. By this means the sequestration of all the blood contained in the lower limbs was accomplished; but, inasmuch as both artery and vein were compressed, only the amount of blood usually contained in each limb was shut off from the rest of the body—which would not have been the case had we contented ourselves with merely compressing the veins, as some have done. In subsequently commenting on my published report of this case, that most accomplished writer and physician, Henry M. Lyman—than whom there is no greater authority on anæsthesia—observes that the plan proposed and adopted by me on this occasion (that of compressing both vein and artery) is far preferable to compression of the vein alone.

The reason for this is not far to seek. When we compress the veins alone there is a rapid accumulation of blood in the extremities through the accessions derived from the uninterrupted arteries. Now, as this blood is derived from the trunk, and consequently also from the organs contained within the cerebro-spinal canal, there is danger of syncope and even heart-failure. When, on the other hand, both artery and vein are compressed no such derivative action occurs, and all danger is consequently removed. With an apology for this brief digression, I now return to the interesting case which has given rise to it.

Having, as previously stated, applied tourniquets to the central portion of the lower limbs, the ether cap was placed over the mouth and nose of the patient, and in an incredibly short time he was unconscious, and the surgeons were able to go on with the operation.

The late Dr. Cornelius R. Agnew and many other members of the staff of the hospital were present, and gave emphatic expressions of approval.

Dr. F. W. Ring, Assistant Surgeon to the Manhattan Eye and Ear Hospital, declared that both the amount of ether and the time consumed in its administration were infinitesimal when compared with what had been expended in previous efforts at inducing anæsthesia in the usual way. The facts brought out on this occasion, with regard to the administration of ether, have since been repeatedly verified by different observers; so that at the present day their validity cannot be questioned. I will merely add, however, that I have long known that the dosage of phenacetin, antipyrin, morphine, chloralamid, chloral, the bromides, and many other remedies might be reduced by resort to the same procedure; all of which is merely equivalent to stating that their pharmaco-dynamic energy may be increased in this way. And this brings us to the second fact, which requires no special elaboration and may be stated thus:

Second Fact.—The duration of the effect of a remedy upon the cerebro-spinal axis is in the inverse ratio of its volatility; and this is equally true whether the remedy be given with or without the precautions previously detailed. For example, the anæsthetic effects of ether disappear shortly after removal of the inhaler, whether we apply tourniquets to the extremities or not; but, on the other hand, the analgesic influence of antipyrin, phenacetin, morphine, and other like remedies lasts very much longer, and their dose may be reduced, or—what is the same thing — their pharmaco-dynamic potency may be enhanced by the sequestration of the blood contained within the extremities. So far as I know, I was the first to announce this fact. In so far as a simple expression of the above truth is concerned, we may employ the following formula:

Let a represent the normal blood mass contained in the entire body, d' the amount of blood sequestrated by the ligatures, b the amount of the remedy, c the volatility of the remedy, and x the pharmaco-dynamic potency of which we are in search; we shall then have

$$x = \frac{b}{(a - d') \times c}.$$

We now arrive at our third fact, which will require more extensive elaboration.

Third Fact.—The pharmaco-dynamic potency of stimulants, sedatives, analgesics, and probably of all remedies which possess a chemical affinity for nervous matter, is enhanced by exhibiting them (the remedies) in solution or soluble form—hypodermically, by the mouth, or per rectum—while the subject remains in a condensed atmosphere. And, as a corollary, it may be stated that this increase, this enhancement of the potency of the remedy is, within certain limits, in the ratio of the atmospheric condensation.

To express this truth mathematically is not difficult. Thus, when a represents the amount of blood of the whole body, b the amount of the remedy, e the amount of atmospheric compression, and x the pharmaco-dynamic potentiality which we are seeking, we shall then have the simple formula

$$x = \frac{b \times e}{a}.$$

A definite conception of the truth of this proposition will, I think, be more readily attained by the presentation of the steps which led me to its discovery.

Let me begin, then, by stating that my attention was attracted several years ago by that unique complex of symptoms known as the "caisson or tunnel disease." As most physicians are aware, the caisson disease is an affection of the spinal cord, due to a sudden transition from a relatively high atmospheric pressure to one much lower. Hence, those who work in caissons, or submerged tunnels, under an external pressure of two atmospheres or even more, are liable to be attacked by the disease shortly after leaving the tunnel. The seizure never, however, occurs while the subject is in the caisson, or in other words, while he remains under pressure. Moreover, when the transition from the condensed atmosphere to that of ordinary density is gradually accomplished, which may be done by letting the air escape from the lock very slowly, the caisson disease is rarely if ever set up. It is the systematic disregard of this principle by those who work in compressed air that is responsible, or largely responsible, for the occurrence of the disease.

The chief clinical features of the caisson disease are pain, which may be relatively mild, as when confined to a circumscribed area of one extremity, or of frightful intensity, as when it appears in the ears, knees, back, or abdomen; anæsthesia and paralysis, usually of paraplegic

[1] On the Effective and Rapid Induction of General Anæsthesia, The New York Medical Journal, October 22, and December 24, 1887.

type; bladder symptoms, assuming the form of retention or incontinence; and, more rarely, rectal disturbances (usually incontinence).

These phenomena, or rather some of them, appear some time within half an hour after the subject has left the compressed atmosphere. It was while investigating this most interesting affection as it occurred in the course of the construction of the Hudson River tunnel, that I was able, at the same time, to study the effects of compressed air upon the organism, and especially upon the nervous system, as exhibited in a large number of persons.

The results of these studies I now submit without hesitation, and in all candor, to the judgment of the profession, believing, as I certainly do, that their practical significance from a neuro-therapeutic stand-point is assured. Without anticipating, however, let me state that the first thing which impressed me about compressed air was its extraordinary effect upon cerebral and cerebro-spinal function.

Those who remain for a certain length of time, not too long, however, in the condensed atmosphere exhibit a most striking exacerbation of mental and physical vigor. They go up and down ladders, lift heavy weights, are more or less exhilarated, and, in short, behave as though under the influence of a stimulant.

Hardly had I observed these things, which are perfectly well known to those who have been able to familiarize themselves with the ordinary effects of compressed air as used in caissons and submarine works of various kinds, when my attention became attracted by what at first appeared to be a phenomenon of trivial importance. In a word, I observed that some of the men exposed to the effects of the compressed air were more exhilarated by it than others. Upon superficial reflection one might have supposed that this discrepancy in physiological effect was to be accounted for merely on the basis of constitutional idiosyncrasy; maturer thought, however, convinced me that the exaggerated effects of the condensed air were both too numerous and too constant to be amenable to such an explanation. This led me to study the habits of the men; and thus it was that I arrived at a discovery of real practical value to neurotherapy. To be brief, I found that a certain percentage of the men, before entering the compressed air employed in the construction of the Hudson River tunnel, were in the habit of drinking a quantity of alcohol, usually in the form of whiskey. So long as these men remained outside the tunnel, where the atmospheric conditions were normal, they were not visibly affected by their potations. When, however, they entered the compressed air of the tunnel, but a short time elapsed before they became exhilarated to an inordinate degree, acting, as one of the foremen graphically expressed it, "as though they owned the town."

On the other hand, when the customary draught of alcohol was withheld from them, these same men were no more, if as much, exhilarated on entering the compressed air as were their fellows.

The effects of alcohol, then, are enhanced by exposing the subject to the influence of an atmosphere condensed to a considerable degree beyond that of the normal atmosphere.

Acting on the hint derived from this discovery, I proceeded to administer absinthe, ether, the wine of coca, vermouth, champagne, and other stimulants, before exposing the subject to the influence of the condensed atmosphere, and invariably observed analogous effects, *i.e.*, palpable augmentation of the physiological effects of the remedy.

Upon what principle does this augmentation of physiological effect depend? how is it to be accounted for?

In my opinion, the answer to this question may be given as follows: In the first place, we know that the primary effect of the compressed air upon the organism must be to force the blood from the surface of the body toward the interior, and especially into the cerebro-spinal canal. Or, to express it more succinctly, the blood will be forced in the direction of the least resistance, that is, into the soft organs enclosed by bony walls, which latter completely shut out the element of counter-pressure. Now, when the blood-stream is freighted with a soluble chemical of some sort—let us say, for the present, with alcohol—this medicated blood will exert its greatest chemical effect where the tension—the pressure—is greatest, that is, in the cerebro-spinal canal. The reason for this is found in the fact that endosmosis is most pronounced where the blood-pressure is greatest. This explanation of why the effects of alcohol are enhanced by exposing the individual who has taken it to the effects of a condensed atmosphere will, I believe, appeal to the physiological conceptions of most medical men. It was the above course of reasoning which, at this stage of the argument, led me to the idea that, just as the effects of stimulating substances are enhanced by exposing the subject to the influence of compressed air, so, inversely, sedatives and analgesics, when brought in solution into the blood-stream either hypodermically or by the stomach, might be greatly enhanced in effect by causing the subject to remain, while under their influence, in a condensed atmosphere.

When I came to investigate the validity of these predictions, as I did shortly after the introduction of antipyrin, phenacetin, and the other members of the same group of compounds, I found my predictions verified, and, indeed, exceeded. To summarize the whole matter, I ascertained that not only could therapeutic effects be obtained from much smaller doses by exposing the subject to the influence of a condensed atmosphere, but, what was of equal interest, I found that the analgesic influence of the remedies was much more permanent, was prolonged, in short, by this mode of administration. When we consider how great must be the nutritive changes in the nervous system, and especially in the cerebro-spinal axis, consequent upon increasing the blood-pressure in this way, I hardly think that these things should be matters of astonishment.

Concerning the Practical Application of the Foregoing Facts.—Truths like the foregoing possess, however, much more than a theoretical interest, and we should be greatly lacking in perspicuity did we not seek to derive from them something further than a foundation for mere speculation. Indeed, the whole tenor of these facts is opposed to such a course, for, view them as we may, the thought inevitably arises, that here are things which contain the germ of some practical acquisition. This, at least, is the impression which they engendered in my own mind—an impression, which, being unable to rid myself of, I have allowed to fructify. Nor has regret followed this tenacity of purpose, since, by the *combination* of the three principles previously enunciated, I have been able to devise a procedure which, in my hands, has yielded flattering results in the treatment of a wide range of nervous affections, and notably so in melancholia, chorea, insomnia, neurasthenia, and painful conditions of various kinds.

Recapitulation of Argument.—The method in question consists, then, in the combination of the three facts already elucidated. To recapitulate, they are:

1. That the effects of remedies upon the cerebro-spinal axis may be enhanced by the sequestration of the blood contained in one or more extremities, previous to the administration of the medicament. This is only another way of saying that the quantity of a remedy required to produce a given physiological effect, may be reduced by any expedient which suspends, or sequestrates, the blood in one or more extremities. As has been previously said, however, care should be exercised to avoid dangerous exsanguination of the trunk, and consequently of the respiratory and cardiac centres contained in the medulla. This may be done by compressing the central portion of both artery and vein; but I shall presently indicate a better way of accomplishing the same thing.

2. The duration of the effect of a remedy upon the cerebro spinal axis is in the inverse ratio of its volatility.

For this reason the anæsthetic effects of ether disappear shortly after removal of the inhaler, whereas solutions of antipyrin, phenacetin, morphine, and other salts possessing an affinity for nervous tissue exert much more permanent effects upon the cerebro-spinal system.

It is evident, therefore, that the administration of remedies designed to exert an influence upon the central nervous system in the form of gases, must be far inferior to the exhibition of potent solutions hypodermically or by the mouth.

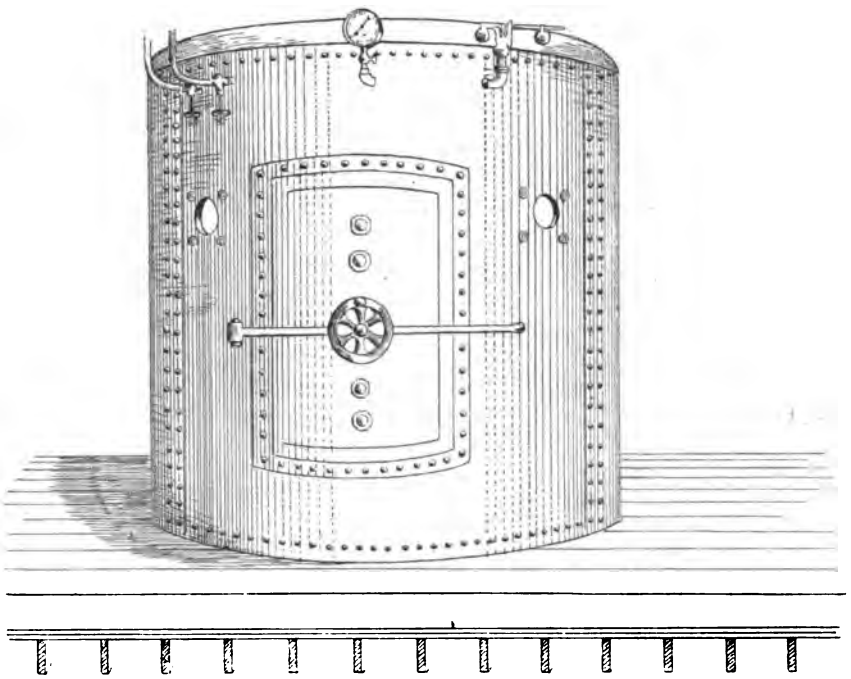

FIG. 1

3. The pharmaco-dynamic potency of stimulants, sedatives, analgesics, and probably of all remedies possessing a chemical affinity for nervous matter, is enhanced by exhibiting them (the remedies) in solution, or at least in *soluble form while the subject remains in a condensed atmosphere.*

And, as a corollary to this, it may be stated that this increase—this enhancement of therapeutic effect is, within physiological limits, in the ratio of the atmospheric condensation. By physiological limits we mean simply that there is a degree of atmospheric condensation beyond which we cannot go without jeopardizing the well-being of the subject.

I think enough has now been said to exhibit in a striking manner the advantages of a therapeutic kind which would inevitably attend the embodiment of these fundamental facts in one comprehensive system. Such a combination I have succeeded in bringing about in the following way.

The Author's System of Using Compressed Air in Conjunction with Medicinal Solutions in the Treatment of Cerebro-Spinal Affections.—In the first place, I have had constructed a large metal chamber, capable of hermetical closure, and able to withstand a pressure equal to that of a locomotive boiler (Fig. 1). This chamber is cylindrical; it is six feet in diameter, six and one half feet high, and its walls are composed of soft steel. The ends of the cylinder, which compose the top and bottom of the chamber, are five-eighths of an inch in thickness, while the cylindrical walls are somewhat less heavily constructed. The seams are not secured by rivets but by bolts, so that the chamber was brought into my house in sections and erected in one of the consulting-rooms without noise or other disturbance.

Access to this chamber is afforded by a massive door, swung from the centre upon ponderous hinges, which peculiar arrangement admits of a very exact coaptation of the door to its frame. The edges of the latter are of course armed with a thick roll of india-rubber. To further insure a hermetical closure an adjustable cross-lever has been provided, so that a screw acting by the aid of a hinge from the centre of the door upon this lever or cross-bar enables one to draw the door—which opens inwardly—firmly against its frame.

The ingress and egress of the air, which is derived from a pump actuated by an electric motor of one horse-power, are regulated by adjustable valves. By this arrangement it is possible to accurately regulate the amount of air-pressure deemed applicable in a given case. In addition to these appliances a safety-valve and pressure indicator have also been provided. The amount of pressure commonly employed is, however, vastly below the maximum point of endurance of the chamber, which, on account of its unusually solid construction, is capable of withstanding enormous strains. How great is this strength may be gleaned from the fact that, in its completed condition, it weighs over two tons. I feel that great credit is due to the Cockburn Barrow & Machine Co., of Jersey City, for the conscientious manner in which they have performed this portion of the work. As is well known to the engineering fraternity, this firm has had an extensive experience in the use of compressed air in caisson and tunnel work, notably in the case of the Hudson River tunnel and the foundation work of the Hatteras lighthouse. It gives me pleasure to acknowledge my special indebtedness to Mr. William C. Barr and Mr. D. B. S. Cockburn, both of whom have been assiduous in their endeavors to render the mechanical details all that they should be.

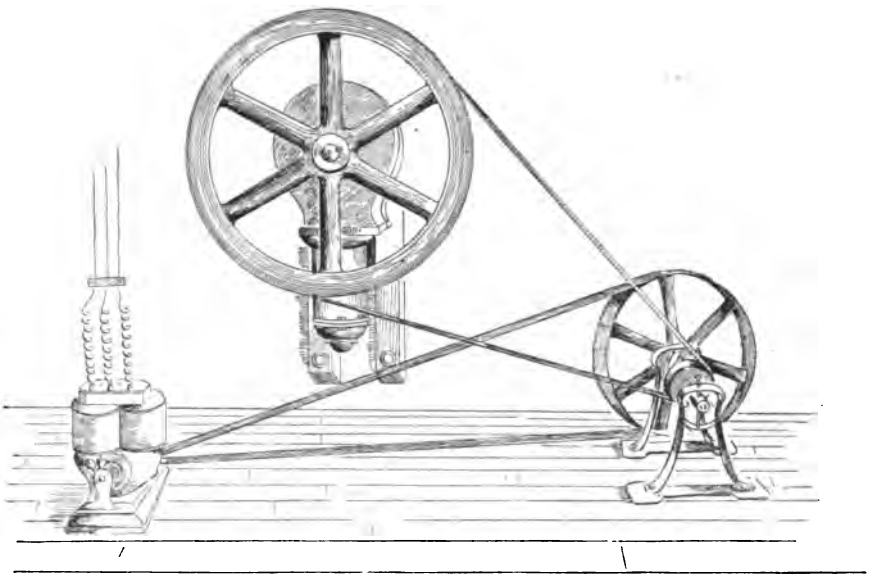

FIG. 2.

I cannot leave this portion of the subject without indi-

cating briefly the principal features of the mechanism employed in condensing the atmosphere within the chamber. For this purpose I have had placed in the cellar of my house a one horse-power electric motor, actuated by the current derived from the street conduits of the Edison Electric Illuminating Company. To the motor is joined, by appropriate belts and counter-shafting, an air pump (Fig. 2) of superior construction, and with a capacity of more than 140 strokes to the minute, the length of each stroke being six inches, and the diameter of the cylinder of the pump being also six inches.

By the aid of a system of wires, switches, and a resistance-box one is able to start this mechanism from the floor above, in the immediate vicinity of the air-chamber, without the slightest danger of causing a derangement of the belts and pulleys employed in joining the pump and motor together.

A strong tube of iron conducts the air from the pump through an aperture in the floor to the metal chamber; while a similar tube conducts the redundant air from the automatic exhaust-valve previously described. It is possible in this way to obtain pressures of from fifteen to thirty pounds in a few minutes.

It gives me pleasure to express my indebtedness to Mr. Hadley, of the Edison Electric Illuminating Company, who has superintended this elaborate installation with much diligence and skill.

Let me now describe, in as few words as possible, the manner in which I am accustomed to employ this apparatus in conjunction with medicinal solutions, for the purpose of increasing their pharmaco-dynamic effects, more especially as related to the cerebro-spinal functions.

As stated at the beginning of the argument, I esteem it of advantage, before introducing the remedy into the system, to sequestrate a certain amount of blood in one or more of the extremities. This may be done by passing a ligature around the limb so as to arrest the circulation in both artery and vein; or the ligature may be drawn only sufficiently tight to check the circulation in the cutaneous veins alone. While in the latter case the ligature is much better borne than in the former, so that it may be worn for protracted periods without inconvenience, it possesses the inconvenience that it causes an abnormal accumulation of blood in the extremity, with consequent inordinate exsanguination of the trunk and hence of the spinal cord and brain. To avoid this depleting influence, however, it is only necessary to have the patient apply a moderately tight bandage in the form of an elastic stocking or sleeve (when the ligatures are applied to the arms) before adjusting the ligature (Fig. 3). In this way stasis of the blood circulating in the veins may be obtained without depleting to any considerable extent the brain or cord, and without special inconvenience to the patient, provided that the elastic stocking or bandage has been applied in such a way as not to compress the veins, but merely to limit their expansion. This point I hope to have made sufficiently intelligible. The ligatures having been applied and the medicinal solution administered, either by the mouth, rectum, or hypodermically, the patient enters the pneumatic chamber, the air-pump is set in motion, and by degrees the condensation of the atmosphere progresses until the desired pressure is obtained. When this point is reached the redundant air passes off through the blow-off valve, which, as previously mentioned, is automatic in its action and readily adjustable to any desired pressure.

I have rarely deemed it necessary to employ greater pressure than thirty pounds to the square inch (two atmospheres), and I often employ lower ones, especially when the delicate state of the patient's health seem to demand such a course. How long should the patient remain in the condensed atmosphere? This question cannot be answered dogmatically; as a rule, however, an hour will be sufficient to insure an active therapeutic effect. Exceptionally, however, I have allowed the patient to remain in the air-chamber for two hours or more.

And now let me add a few injunctions respecting the precautions to be observed in connection with the removal of the patient from the air-chamber into the normal atmosphere. In the first place, it is of the utmost importance that this transition from an atmosphere of high to one of relatively low tension should be gradually accomplished. To this end the air should be allowed to escape very gradually, so that from fifteen to twenty minutes are consumed in the operation of reducing the pressure in the chamber to that of the external atmosphere.

While this reduction of pressure is in progress the tourniquet or strap employed in compressing the vessels is removed by the patient, but the elastic stocking or compress is allowed to remain. At the same time the subject swallows fifty or sixty drops of the aromatic spirits of ammonia to which caffeine, the sulphate of sparteine, or some other heart-tonic may be added, at the discretion of the physician. This cardiac stimulant stands properly prepared upon a table in the air-chamber, and the patient is instructed beforehand when and how to take it. The combined effect of the elastic compress and the cardiac tonic is to increase the vaso-motor pressure in the cerebro-spinal

Fig. 3.

system of vessels at the very moment when the compressed air is ceasing to perform that function. As a result of these precautions, I have yet to meet with a single untoward effect from this system of treatment.

Finally, the ventilation in the air-chamber should be carefully looked to, so as to avoid the inordinate accumulation of carbonic acid gas in the chamber and hence in the system; for when the system, and more especially the cerebro-spinal system, is overloaded with carbonic acid, grave disturbances of function may be induced, which manifest themselves after the subject leaves the compressed atmosphere. It is ignorance or disregard of this fact in connection with submarine work which has, I believe, given rise to many cases of severe caisson disease.

In the elaborate and roomy apparatus which I employ there is fortunately no danger of this or any other kind of accident, since the circulation of air is continuous and the pressure capable of exact and automatic regulation.

The next question which naturally suggests itself is, "What are the remedies most suitable to be administered under pressure where a direct action upon the nervous system, and especially the cerebro-spinal system, is sought after? This question has already been briefly referred to at the beginning of this paper; but I should like to answer it somewhat more explicitly. In the first place, all chemicals which possess an affinity for nervous matter, as revealed by their ability to modify the functions of the central and peripheral nervous system, more especially the former, may be given with advantage

while the subject remains in a condensed atmosphere. When I say that such substances may be given with advantage in this way, I mean that the intensity and permanency of their effects may be thus enhanced; or, in other words, they may be given with equal if not greater effect in much smaller doses, and the benefit derived lasts much longer.

A moment's reflection will suffice to convince any thoughtful physician of the significance and magnitude of these things from a practical point of view. It is, indeed, at once apparent that the discovery is capable of a wide application in the treatment of nervous derangements, especially those involving the brain or cord, or both. I have said that the remedies may be given hypodermically, by the mouth, or per rectum. I may add, however, that their exhibition by the mouth dissolved in some diffusible stimulant of an alcoholic nature is to be commended.

Illustrative Cases.—A brief synopsis of a few of the cases in which I have resorted to this system of treatment will best serve to give an idea of its effectiveness and wide applicability.

CASE I *Pain Due to Morbid Irritability of the Cord —Spinal Irritation.*—Miss C——, aged forty-five. Had been treated by a number of physicians for obstinate dorsal and intercostal pain. The cautery, galvanism, and all the usual drugs, including strychnine, had been tried without avail. She was brought to my consulting-room by one of my former patients, whom I had been fortunate enough to cure of obstinate headaches.

On physical examination, I found the spine tender on pressure in the cervical, dorsal, and lumbar regions; while such paræsthesiæ as tingling, numbness, and "burning" pains were promptly evoked when she attempted to walk or bend the trunk forward or laterally.

These symptoms had manifested themselves more or less constantly for the past three years; but there was no evidence of any organic alteration involving the nervous system. The pulse was somewhat sluggish, but the heart and lungs and the kidneys were healthy.

While the interview was still in progress she complained of feeling a great deal of pain, and wishing, if possible, to afford her some relief, I gave her twenty grains of antipyrin in a teaspoonful of the aromatic spirits of ammonia, well diluted with water. Although she was somewhat anæmic, there was no unpleasant symptom; but, unfortunately, neither was there the slightest relief, the pain persisting as energetically as before.

On the following morning she was again brought to my office in a carriage. Learning that she still suffered from the painful paroxysm of the day before, I gave her ten grains of antipyrin in a little alcohol, applied two ligatures above the knees, and then installed her upon a comfortable couch within the air chamber. During the first fifteen minutes the pressure reached eight or ten pounds to the square inch. Subsequently it was increased to twenty-five pounds, which point it was not allowed to pass, the blow-off valve being adjusted to that purpose. After remaining in the condensed atmosphere for three-quarters of an hour, the pressure was gradually reduced; and fifteen minutes later, the equilibrium between the air in the chamber and the external atmosphere being established, she rose from the couch and passed through the open door without assistance. She then stated to me in the most positive manner that, not only was she now quite free from all discomfort, but that she had been quite relieved of pain after the first fifteen or twenty minutes of her sojourn in the condensed atmosphere.

There being no considerable return of pain the following day, treatment was continued as before, except that one-twentieth grain of the sulphate of strychnine was given hypodermically instead of the antipyrin before entering the condensed atmosphere. She was also placed upon the albuminate of iron and quinine, both of which she took for some time after the principal meal.

At the end of three weeks, there being no return of pain, she was allowed to discontinue treatment. Quite a long time has elapsed since then, but she writes me that she is quite well, and has gained considerably in weight.

CASE II. *A Case of Nervous Headache Promptly Relieved.*—This case is cited merely to show how promptly a distressing phase of headache may be relieved by this plan of treatment, with a minimum of drugging.

Mrs. D. E——, a married lady of forty years of age, has suffered from severe attacks of headache of a "nervous" type for many years. As a rule, the paroxysm begins with more or less visual disturbance, the sight becoming clouded; and all attempts to use the eyes are followed by marked feelings of discomfort in the eyes and head. Nevertheless, there are no tangible ocular defects; the pain is not located in the eyeballs, but is ambulatory, predominating at times in the occipital region, at others in the forehead. The circulatory disturbances are inconsiderable, and do not merit special attention, either from an etiological or therapeutic point of view.

Although all the usual remedies have been tried, she has, until within the past six months, derived the greatest benefit from the use of the bromides. For some time, however, these have failed to abort the attacks of pain, so that she now refuses to further continue their use.

By dint of some persuasion, I finally induced her to take something less than her usual dose of the bromide of potassium, the constricting ligatures being first placed above the knee and elbow, and the elastic stockings being just tight enough to prevent inordinate distention of the vessels. In this way a very complete stasis of the circulation in the superficial veins of all four extremities was obtained; so that the amount of blood sequestrated, and hence uncontaminated by the drug, must have been considerable. On the other hand, the elastic stockings served to prevent any considerable exsanguination of the cerebro-spinal axis or the trunk as a whole, as was shown by the carotid pulse remaining unaltered.

Twenty minutes after taking the remedy, the patient declared that she was no better. She was then placed in the air-chamber, and the pressure increased to fifteen pounds to the square inch, at which point it was maintained for nearly half an hour. The pressure was then gradually reduced, as she intimated that the pain had entirely left her.

CASE III. *A Case Showing that the Effects of Alcohol may be Greatly Enhanced by Exposing the Subject in a Condensed Atmosphere.*—R. E. A——, a young unmarried man, has been addicted to the habitual abuse of alcohol for many years. He states that at the present time he is obliged to take double the quantity which he formerly drank in order to obtain the slightest stimulating effect. I had him indicate on a tumbler his usual dose; and, as there exhibited, it could not have been less than two ounces, his tipple being whiskey or brandy. Wishing to ascertain whether in so old an habitué, the compressed air might be invoked as an aid to decreasing the amount of alcohol taken at one time, I gave him half his accustomed dose of whiskey, and had him enter the air-chamber (without ligatures or elastic stockings). The pressure was then gradually increased to eighteen pounds to the square inch, and at this point it was maintained for twenty minutes, the air being renewed from time to time to insure a plentiful supply of oxygen. It was then gradually decreased till the pressure within the chamber equalled that of the external atmosphere. The door was now opened, the patient having been exposed to the influence of the condensed atmosphere for forty-five minutes, and to a maximum pressure of eighteen pounds for twenty minutes. He then stated that he was certain that the degree of exhilaration experienced was quite equal, if not superior, in degree to that usually derived from twice or even thrice the quantity of alcohol.

The capital significance of such an observation as the foregoing will, I am sure, impress itself upon every thoughtful practitioner.

CASE IV. *A Case Showing the Beneficial Influence of this System of Treatment in Simple Melancholia (without Delusions).*—A. S. E——, young girl, aged eighteen, has

suffered for the past few months from hysterical attacks, followed by periods of marked depression. She has neither hallucinations nor delusions, but she is irritable and obstinate, and at times difficult to control. Of late she has lost considerable flesh, her bowels are constipated, and, in fact, her whole physical condition is far from satisfactory.

Recognizing the paramount necessity of improving the general bodily state, I have had her drink warm milk—often as much as ten or twelve tumblers a day; I have given her, in addition, both cathartics and diuretics; and I have sought to have her take more air and exercise, at the same time endeavoring to promote sleep by the conservative exhibition of soporifics.

These things have already begun to do good; but, while she is more tractable and less inclined to cause worry to those about her, her attacks of depression, though perhaps not as frequent, are quite as severe as formerly. While suffering from one of these attacks of depression she was recently brought to my office by her mother; and, at my suggestion, she was placed in the air-chamber, a small dose of the extract of absinthe and brandy having previously been given her.

In a short time the pressure was shown by the indicator to be fifteen pounds, and at this point it was maintained for twenty minutes or more. After the lapse of this period, a marked change took place in the patient's appearance, as could readily be ascertained by looking through one of the large glass port-holes. Her face, which had previously worn a dejected, indifferent appearance, now displayed a contented and even happy expression, and she occupied herself with reading the newspaper—something that she had not done before for weeks.

On leaving the air-chamber this air of contentment remained and, according to her mother's statement, she showed no further evidences of depression for the next three days.

Though I had employed the above remedies, and various others as well (without the compressed air), on former occasions and in larger doses, it had never been my good fortune to obtain any appreciable immediate good from them. I feel, therefore, entirely convinced—more especially as I have since been able to produce the same class of effects on several occasions, both in this and other patients—that the enhanced potency of the drugs was entirely due to the concomitant influence of the compressed air.

CASE V. *A Case Showing the Enhancement of the Soporific Powers of Hypnotics, and more Especially of Chloralamid by the Administration of the Same, while the Subject Remains in a Highly Condensed Atmosphere.*—E. N——, a neurasthenic woman who has suffered from acute insomnia for several weeks, and who is inappreciably influenced by the usual hypnotics or their combinations, even when given in large doses.

Among other soporifics I have given her chloralamid in doses of forty-five grains, but with quite insignificant success; for in spite of the remedy she declares that she never sleeps more than one hour or two out of the twenty-four. At my suggestion she consented to try the effects of the compressed air treatment.

Accordingly, I gave her a dose of thirty grains of chloralamid—fifteen grains less than she had previously taken at night; and, fifteen or twenty minutes after its administration, the elastic straps having been previously adjusted to the lower extremities above the knees—she entered the air-chamber. The pressure was then raised to fifteen pounds to the square inch, as shown by the gauge; and at this point it was maintained for upward of half an hour, the air being renewed from time to time, but without altering the pressure. While thus exposed to the concomitant influence of the drug and condensed air she became drowsy, and finally fell asleep. From this state of unconsciousness she was only aroused by the noise of the escaping air as I opened the valve of the outlet tube in order to empty the chamber.

On the following day she stated that, at the conclusion of the treatment, she had gone home, and lying down upon the lounge, had immediately fallen asleep, only awaking after the lapse of five or six hours. In other words, she had slept the entire afternoon—something that she was quite unable to accomplish, even previous to the attack of insomnia.

This case is instructive, as exhibiting the continued good effects of this plan of treatment; by which I mean that the soporific tendency persists even after removal of the patient from the condensed atmosphere. I will merely add that this case went on to complete recovery, natural sleep supervening regularly without artificial assistance of any kind after treatment had been continued for four weeks.

CASE VI. *A Case Showing that the Soporific Powers of Sulphonal can be neither Enhanced, Accelerated, nor Prolonged by the Concomitant Exposure of the Patient to the Influence of Compressed Air.*—F. I. T——, a Polish Hebrew in middle life, consulted me for insomnia, which he states came on as the sequence of the "grippe." Having adjusted the ligatures about his limbs, I gave him fifteen grains of sulphonal, and half an hour later placed him in the chamber. The air-pressure was then raised to fifteen pounds to the square inch, at which point it was maintained for over an hour. After leaving the air-chamber he stated that at no time had he felt the slightest drowsiness; and moreover, on returning the following day, he declared further that the postponed soporific effects so frequently due to the drug were entirely absent.

Subsequently, I gave him small doses of chloralamid, which were exhibited under a precisely similar degree of pressure (fifteen pounds to the square inch), and with the result that sleep could be induced at pleasure either by day or night. Eventually he recovered completely.

I have cited this case merely to show that sulphonal is not a remedy which is well adapted to be used in conjunction with compressed air.

CASE VII. *A Case Showing that the Potency of Diuretics (or at least of some Diuretics) is Enhanced by their Exhibition while the Patient Remains in a Condensed Atmosphere.*—W. E.——, a man of middle age, a sufferer from chronic nephritis. I was consulted with regard to various nervous symptoms, notably irritability and insomnia, from which he had been suffering for several months past, but notably so during the past six weeks.

When I saw him, he had been taking copaiba for some time, and his stomach had become weak and inefficient. In the course of various suggestions pertaining to the management of the neurotic phase of the case, I availed myself of the opportunity thus afforded to recommend that colchicin be substituted for the copaiba capsules.

This was accordingly done, the remedy being exhibited in $\frac{1}{50}$ grain doses. For some reason the quantity of urine excreted was not materially enhanced; and, being informed of this fact, I suggested, merely as a matter of scientific interest, that the remedy be given in conjunction with the compressed air.

He readily consented to this, and I gave him the usual dose of the remedy, and shortly afterward had him enter the air-chamber, where he remained for over an hour at a pressure of eighteen pounds to the square inch. During this time the air was renewed, but without altering the pressure. In the afternoon the same operation was repeated, the patient remaining even a little longer in the air-chamber.

The amount of water excreted during the progress of these observations was collected and measured, with the result that it was found to exceed in quantity that previously passed during the same interval by about one-third.

This observation, though, strictly speaking, without the limits of the subject under consideration, possesses, nevertheless an undoubted collateral interest, inasmuch as it demonstrates that the vaso-motor pressure in the structures

contained within the abdominal cavity is enhanced—though not to the same degree as in the cerebro-spinal cavity—by exposing the subject to the influence of a highly condensed atmosphere.

Corollary to Argument—Final Summary.—The procedure which we have now elucidated with sufficient minuteness, consists, then, of the following elements: 1. Sequestration of the peripheral circulation, especially in the extremities, either by the application of ligatures which compress both arteries and veins, or the arteries alone, or the veins alone. As previously stated, I prefer the latter expedient, provided it be combined with the simultaneous application of an elastic compress (stocking) below the ligature, so as to restrain the expansion of the veins, thus preventing the undue accumulation of blood and consequent exsanguination of the trunk. 2. The introduction of a chemical having an affinity for nervous matter, and especially for that composing the cerebro-spinal axis. 3. The immersion of the subject in air condensed much above the pressure of the normal atmosphere.

We have already considered a variety of effects produced upon the system, and particularly the cerebro-spinal system, by a plan of treatment embodying these three elements. Something has also been said regarding the causation of these phenomena; but the subject is capable, I think, of somewhat further elucidation. I shall therefore bestow a few parting thoughts in giving a more comprehensive answer to the question: Why is it that cerebro-spinal medicaments, when given in this way, are enhanced and, to a certain degree, prolonged in their effects? Or, to state the matter still more concretely, how does it happen that we may give a certain amount of a remedy in the usual way, either by the mouth, rectum, or hypodermically, without visible effect upon the central nervous system, and yet may obtain characteristic effects from that remedy when given in the same dose as before—or even in a smaller one—if we call in the aid of the ligature and compressed air in the manner previously set forth? I shall endeavor to answer this question as succinctly as possible.

In the first place, by applying the ligatures in the manner previously set forth we cause a more or less extensive stasis or sequestration of the peripheral circulation, thus reducing the amount of blood to be impregnated with the medicinal substance. In other words, we have only the blood in the trunk to medicate, while that contained in the limbs—provided we apply the ligature to both arms and legs—remains uncontaminated. Consequently, the dose of medicinal substance, being distributed only throughout the blood-mass contained in the trunk, arrives in a much more concentrated condition in contact with the cerebro-spinal axis than would have been the case had the subdivision extended to the blood contained in the limbs.

To all physiological intents and purposes the size of the individual has been curtailed; and we all know that the smaller animals—other things being equal—are much more susceptible to the influence of medicinal substances, and this is especially true of stimulants and sedatives, than the larger ones. How does the compressed air assist in still further enhancing the physiological effect of the remedy?

To comprehend how this is accomplished it must be borne in mind that the quantity of blood circulating in the trunk is not reduced in volume—or but slightly so—by the application of the ligatures, but is merely shut off, sequestrated as it were, from that contained in the extremities. Consequently, when the condensed air presses upon the blood circulating at the surface of the trunk, it (the blood) is forced in the direction of least resistance, *i.e.*, the cerebro-spinal cavity. Hence the vaso-motor tension will be greatest at this point, and, as a result of this, the transudation of the medicated blood into the tissue of the brain and cord will be greatly enhanced. This, so far as my physiological apprehension serves me a right, is the true explanation of why the effects of a large class of cerebro-spinal remedies are so strikingly enhanced by their exhibition while the subject remains in a condensed atmosphere, with ligatures adjusted to the extremities in the manner previously described. Moreover, in my opinion, the perpetuation of the beneficial effects is due in no small degree to the nutritive changes, which are more or less directly traceable to this increase in vascular tension.

From the facts and considerations already brought forward I think it will be admitted that this system of using compressed air in conjunction with medicinal solutions is capable of extensive application in the treatment of nervous and mental affections, more especially those of functional origin of a rebellious and unyielding type.

For an extensive list of the literature of compressed air the reader is referred to my paper on the "Caisson Disease."*

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ONE FORM OF PHARYNGEAL MYCOSIS—MYCOSIS LEPTOTHRICA.

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It is often alleged against the results of scientific investigation that they are curious rather than profitable. While this may be to a certain extent true, it is only in accordance with the general rule which obtains with every advance in positive knowledge. Clinical observations accumulate and for a long time remain only speculative. In each instance it remains for some one to bring speculation to a decisive issue and to point out the value of the hitherto merely curious facts. The application of our instruments of precision in the study of the diseases of those portions of the body open to ocular inspection has done much to make medicine approximate to an exact science.

The study of parasitic diseases of the mouth is a notable illustration of what has been said. Our knowledge of their etiology has gradually become more definite and our treatment more exact. Mycosis leptothrica, presenting many points of resemblance in its gross appearance to some of the more common throat diseases, was for a long time overlooked. Closer observation and the aid of staining-fluid and lens have clearly differentiated it from all other affections. This, however, is a comparatively recent event. Consequently, not in text-books but in the journals and clinical reports of the last fifteen years shall we find its literature, and as the years go on it has become a matter of more frequent occurrence, or, let me say, cases are more frequently reported. Our category of irregular forms of throat disease is growing comfortingly less.

The disease, then, is a parasitic affection of the mucous membrane of the mouth, possibly located on any portion thereof. It manifests itself in the shape of white patches of varying size. These are found to contain epithelial cells and various parasitic forms of a vegetable nature, the distinctive ones being the so called leptothrix threads. The local condition may or may not be accompanied by constitutional symptoms. It has been called a benign affection. It is, so far as life is concerned, but, as Heryng[1] observes, this term can hardly with justice be applied to those cases which continue (as some do) from month to month. As to where the process ceases to be a natural accident and becomes a distinct pathological entity (a fact denied by Chiari[2]) it is difficult to say. The tonsillar crypts of healthy persons are at times more or less plugged by these vegetable masses. It is only when the plugs become large enough to entirely fill the crypts and project slightly from the surface that they come under our observation.

Miller[3] gives a very good description of the macrosco-

*Observations on the Caisson or Tunnel Disease, the Medical Record for May 10, 1890.

pic appearance as follows: "It occurs as a dirty-yellowish deposit, varying in size from the head of a pin to a pea, consisting of numerous bacterial forms, and extending deep into the lacunæ of the tonsil. Both or only one of the tonsils may be attacked, while the tongue and soft palate are more rarely affected." According to Schech,[4] the subjective symptoms consist in dryness, tickling, burning, slight pain on swallowing, inclination to hawk, and anorexia. In one case Schech noticed fever, with general discomfort, while weakness and anorexia preceded the appearance of the spots. Miller himself never saw a case with constitutional symptoms.

The history of the disease is not devoid of interest. The older observers seemed to be aware that there was a disease of the throat, the etiology of which was obscure. Mackenzie speaks of an "exudative follicular pharyngitis," Stoerck of "seborrhœa of the follicles of the pharyngeal mucous membrane," Biesadecki of "amyloid degeneration of the mucous glands," based on the iodine reaction to be mentioned later. Rokitansky regarded it as an atheromatous condition, probably of the membrane itself. In 1873 B. Fränkel[5] described it under the title "Mycosis Tonsillaris Leptothrica Benigna," evidently regarding it as a tonsillar affection solely. He asserted that it was an affection hitherto unrecognized, and that it had a definite pathological basis. The first case was accidentally discovered in the course of routine clinical work. The exudations were described by him as punctate, and projecting about one line from the membrane surface. They felt not firm, but rather like mould, and were about the size of an ordinary gland. The epithelium was present around them, and in the secretion removed from the sites there seemed to be small, round bodies in active motion. Upon these preliminary observations of Fränkel our definite knowledge is based.

Concerning the etiology we know nothing positive, any more than do we about the origin of pathogenic germs in general. As early as 1675 micro-organisms were discovered by Leuwenhoek in the human mouth. It is generally admitted that through the propagation of varieties in the Darwinian sense, new species are constantly arising in air and water. They all find ready access to the oral cavity. The disease is not directly transmissible; is not contagious. S. Solis-Cohen,[6] reports a case following rheumatic tonsillitis, diphtheria being then prevalent near the patient's residence. Toeplitz[7] says it may follow diphtheria or any follicular angina, but he does not regard the latter as more liable to be followed by mycotic disease than is any other throat affection. Mouth-breathing was suggested in two cases as bearing on the etiology. In several instances Miller[3] observed it to follow an already existing affection of the pharynx, and concluded that the germ colonizations were made possible by the preceding inflammation. According to this same authority it occurs more frequently in women and children who suffer from enlarged tonsils and are more predisposed to chronic pharyngitis.

As is always the case where attention is directed to a newly discovered or reclassified malady, it does not seem to be so infrequent as was formerly supposed. Yet in the first ten years after Fränkel's paper, in 1873, only some six cases had been reported. In the next four years, according to Goris,[8] only thirty-nine were chronicled. Since that time greater closeness of observation has removed the malady from the category of *rare* to that of merely uncommon affections.

The pathology has been fully discussed by various writers. The gross appearance of the lesion is that of discrete white spots, which may be connected here and there (as I recently saw in one case) by scanty thread-like filaments. The mucous membrane covering the tonsil is the part most frequently invaded, and the left rather than the right in the cases thus far reported. For this latter fact we have no known anatomical or physiological reason, and I am the more inclined to regard it as a mere coincidence which will cease to exist when we may have more voluminous records. The epiglottis, according to Heryng, is more rarely invaded, and the larynx may also suffer; other sites are the glosso-epiglottidean folds (Bayer[9]) and the base of the tongue, especially about the circumvallate papillæ. As to a possible habitat of the leptothrix threads, it is interesting to note that in the so-called "fetid bronchitis" they have been found in the tracheal mucous membrane, in the characteristic fungoid plugs. Leyden and Jaffé[10] have repeatedly found them under these circumstances, and also in the sputa of pulmonary gangrene. In the series of fourteen cases reported by Heryng,[1] the affection was confined to the tonsils in seven. In the remainder the base of the tongue was also affected. Six were men and eight women. The age varies from twelve to sixty-two, the decided preponderance being between twenty-eight and thirty-five (Semon[11]). Seifert[12] has found the exudation on the soft palate. Baginsky, in a case of tracheal ozæna, confirmed the statements of Leyden and Jaffé.

These discrete white spots resemble at times mushrooms in shape, while at others they seem like pointed cones. The bases may be separate, or two or three conical tips may seem to have a common base. They are removed from the membrane with considerable difficulty. Mounted on a glass slide, and teased in a little glycerine previous to examination, there is at once appreciated the fact that the mass seems to be in layers. The outer of these is easily smoothed off, while there is a deeper and harder substratum in the shape of little plaques. A cotton-wrapped probe will often accomplish this brushing off while the mass remains on the membrane. At other times the growth seems more tenacious, and the examining finger experiences a sensation as of feeling rather stiff bristles.

Microscopical examination shows a picture which is at first rather confusing, particularly when one tries to reconcile the various and confusing descriptions that have been given of it. As well described by Vanderpoel,[13] there is a general mass of epithelial cells surrounded by an irregular collection of fungoid spores. Boland,[14] denies the existence of distinct epithelial cells, and regards the masses as "epithelial plates," whatever that may be. These spores are arranged in link-like processes, their ends being rounded, or club-shaped. These link-like processes vary in length, and in some cases curl up at their ends into fine hair-like filaments. Others are like rods, colorless, but with sharp dark borders, the centres seeming to be full of granular matter. Besides these spores there are round or oval highly refractive bodies with dark borders arranged in colonies, or placed separately between the branching spores. The whole goes to make up a network formation, composed of spores and refractive granules. Staining with methyl blue brings out colored and uncolored portions on the stem of the spores. The colored portion is supposed by some to be of an amyloid nature, while the uncolored portions are separate partitions. When the same procedure is carried out with Lugol's solution of iodine and potassic iodide for two or three minutes, the portions taking the color give the characteristic starch reaction. Chiari[2] found that the harder and highly refractive bodies gave off a gas in the presence of hydrochloric acid. This picture of the stained thread-like spores is very striking, and when once seen leaves an indelible impression upon the observer.

The symptoms of the affection are generally local. They consist of a varying degree of buccal irritation causing cough, difficulty in swallowing, sometimes reflex laryngeal pain and the sensation as of a foreign body in the throat. At night the latter seems very dry and stiff. All of these symptoms are of course non distinctive. Constitutional symptoms, if present, exist only in a slight degree. E. Fränkel[15] reports a case with painful deglutition and swelling of the submaxillary glands. Schech noted in one instance fever with general discomfort, weakness and anorexia preceding the appearance of the local deposit. On examination the tonsils may be reddened and swollen. Their epithelial coating is frequently thickened by prolif-

eration and the follicles are enlarged. The change is distinctly superficial. Semon [11] records a case in which the uvula and soft palate were greatly congested, the former being also very œdematous. As a rule, however, there is an absence of evidence of local inflammation.

Three conditions exist from which a differential diagnosis must be made. 1, Diphtheria; 2, follicular tonsillitis, and 3, the so-called tonsillar concretions.

From diphtheria the diagnosis is based on the following points: There is a persistent discrete arrangement of the exudate. There is pretty constantly an absence of fever. There is generally an absence of surrounding inflammation. The masses are much harder than pseudomembrane, and the tongue may be involved, which is rarely the case in diphtheria. For the bacteriologist the absence of the Klebs Loeffler bacillus would be convincing evidence.

In follicular tonsillitis we regularly have pretty marked constitutional symptoms, sometimes out of all proportion to the local lesion. The membrane between the follicles is distinctly inflamed. The exudate is easy of removal and is not friable. It may be here observed that the rapid reproduction of the mycotic masses after removal in any manner from the old roots left in the crypts is remarked by all who have studied the subject.

From concretions the diagnosis is sometimes more difficult. It would seem by this time that we ought to have learned pretty clearly what tonsillar concretions are made of, but we find great diversity of statement concerning their composition. We must remember that leptothrix threads are at times found in nearly every mouth, healthy or diseased. They are therefore apt to be mixed up with whatever morbid products come out of the mouth, Prosser James regards concretions as essentially perverted secretions allowed to remain. Mackenzie considers them as perverted secretions shut up in the substance of the gland by closure of the lacunar mouths. Gruening [16] makes the emphatic statement that "all tonsillar concretions are composed of leptothrix masses," and cites the microscopical examination of fifty cases to maintain his view. He found them to consist of packed bundles of straight cylindrical fibres, often containing starch granules embedded in a granular matrix; they frequently contained, also, chalky masses produced from the precipitation of calcium carbonate from the soluble salts of the saliva. This latter process is frequently brought about by non-parasitic algæ. Vanderpoel [13] takes issue with this general statement. He remarks that when the concretions are young they are soft and cheesy; when old, hard and mortar-like. It can be easily imagined that a sluggishly expressed tonsillar secretion would contain a great variety of substances. Hence we are not surprised to find the concretions containing epithelial cells, salts of iron, soda, potash, and calcium, cholesterin, pus-cells, bacteria, mould fungi, chalky flakes, and even leptothrix threads, but we cannot admit that the latter form the main ingredient. These nondescript masses may be coughed up from time to time, or by irritation of surrounding structures produce abscesses which discharge their own exciting cause. They are not mycotic deposits. If expressed they are very slow in reforming. The mycotic patches always reform very quickly after removal, on exactly the same sites.

There is a unanimity of opinion concerning the indication for treatment. It is to destroy the root of the mycotic bush. Various germicide applications have proven valueless. Though with no great tendency to spread, the spots are very tenacious of life, and if removed by mechanical means leave enough of themselves behind to insure a speedy reproduction. Semon claims to have cured his case with chlorate of potash gargle and troches of tannic acid. Seifert caused such a quick cure with ice and a gargle of borax that doubt has been expressed as to the correctness of his diagnosis. Alum and sulphur are useless. Silver nitrate in pencil answered well in two cases which were especially tolerant to its use, but a relapse occurred six weeks later. Smoking is said to have cured one case (?). Jacobson [17] recommends a bichloride gargle —1 to 2,000. Toeplitz found ferric chloride useless, and others have had a similar experience with other iron salts. Carbolic acid has produced negative results. Chiari applied bichloride solution—1 to 1,000—to the membrane, and ordered a gargle of 1 to 10,000. In one of his cases there were recurrences at stated intervals, the disease often remaining several weeks at each visit. A fact to be borne in mind is stated by Miller, viz., that the deposits usually disappear in a few weeks of their own accord, or as soon as the conditions which make their formation possible are removed. This is rather a sweeping statement, and it seems to me that "sometimes," rather than "usually," is the word here to be used. I have seen one case in which the trouble had persisted fully two months without the least abatement. All of the above agents have proved unreliable, to say the least, and nearly all of them useless. Fused chromic acid has given better results, and the point of the galvano-cautery repeatedly thrust into the root of the growth has answered best of all. In fact, in only one of the reported cases is it distinctly said that the cautery failed to produce a cure. It is easy to see why superficial applications like gargles are useless. At the best they can only affect the top of the growth, while its base remains firmly embedded in the tonsillar crypt. Nay, more, the forcible rubbing on of solutions may abrade the epithelium and so promote the spread of the disease. In the cautery we have an agent going down to the root, and definitely localized in its action. It is, under the circumstances, our ideal therapeutic resource, though several applications may be necessary to effect a radical cure.

NOTE.—The history of a case recently under my own observation is as follows: Female, aged twenty-eight; single; American; recently nurse in a gynecological ward. Mother was rheumatic and patient herself had had one attack from which she made a complete recovery; measles six years before, but no scarlatina or diphtheria. She had had a few previous sore-throats, but only after taking cold, and they were always trivial. She had never had any previous attack similar to the present.

Two months before coming under observation she noticed that both tonsils were covered with white patches which were persistent. She had no constitutional symptoms and her general condition was fair, she complaining only of a little debility and anorexia. These symptoms could, it seemed to me, be as much attributed to her long confinement in a hospital ward as to the throat condition itself. The latter caused very little irritation and no cough. Examination showed a typical picture with enlargement of the tonsils, but no acute inflammatory condition. The diagnosis was confirmed by the use of the iodine solution and microscope, as previously described. The leptothrix threads, the amyloid bodies, and refractive granules were all present in considerable numbers.

The treatment consisted in the application of the cautery as recommended. Immediate improvement followed, though she was obliged to leave town before the cure was complete. In this case both tonsils were affected, but no other area.

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131 WEST SIXTY-FIRST STREET.

AN UNDESCRIBED DISEASE: POSTERIOR RECTOCELE.[1]

By GEORGE E. ABBOTT, M.D.,
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MR. PRESIDENT AND FELLOWS OF THE ALUMNI ASSOCIATION: In presenting this short paper upon a rectal condition which I cannot find described, or even mentioned, in any of the books I have consulted—among them some of the most recent authorities—I feel sure that any fallacy of observation will be skilfully criticised, and any false claim of originality will be leniently dealt with, by my associates of this Alumni.

I therefore present to you the following remarks upon that condition which I believe to be fairly styled, Posterior Rectocele.

Before beginning to explore a new field, let me for a moment carry you over the old, familiar ground of vaginal, or anterior, rectocele.

Let Fig. 1 represent a large, thin-walled, rubber tube

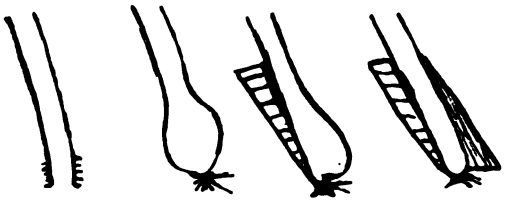

FIG. 1. FIG. 2. FIG. 3. FIG. 4.

in upright position, with a current of water running through it. Now, with no obstruction at its end, we have no pressure upon its walls, and no bulging of its circumference. For the sake of future argument this shall represent the condition of the bowels with diarrhœa, and a paralysis of the sphincter. In Fig. 2 we have tied the end of the tube with a broad tape, or sphincter, or rubber band, and having thus, as it were, restored the contractile tone of the sphincter ani, we get above the tape, the pear-shaped bulging.

FIG. 5.

In Fig. 3 we have cemented to its posterior wall a wedge-shaped splint, base upward. This prevents the bulging upon the wedged side of the tube, but the bulging still protrudes anteriorly.

Let me, in Fig. 4, cement another wedge, anteriorly, base downward, and with a few adhesive straps of facia, we shall prevent all bulging of the rubber tube.

Now allow me to turn this vertical Fig. 4 into a horizontal position, and in Fig. 5 we shall find that our rubber tube will quite well represent the rectum, with the first wedge as the sacrum and coccyx, while the second wedge will represent the perineum.

Let us now lacerate our perineal wedge, with its accompanying retractions and atrophies, and we again have Fig. 6, our old friend, vaginal or anterior rectocele.

But suppose the anterior wedge remains intact, as is the case in the normal female, and almost without exception in the male, and also conceive that the posterior wedge be lacerated, or that which is a mechanical equivalent, that it be carried upward, away from the constrictive sphincteric band, so that a space be left unsupported; then it must be evident to all, that a bulging posteriorly, or a *posterior rectocele*, must take place to a greater or less degree, as in Fig. 7.

All of you must have observed how much the presentation of the vulva and anus differs in different patients, even in a good Sims position. In some patients the vulva is right before one, easy of access—and then again it is far forward between the thighs, difficult of access, even though the knees be carried well upward against the chest.

Now, in the measurements I have taken I find that the

FIG. 6.

distance from the coccyx to the anus varies very much; from less than two to over three inches, making quite a deviation in length of the posterior rectal support from its buttress, the sacrum and coccyx, to its outlet the anus.

Yet this is not the chief element in this disease. The principal factor seems to be the quality of the tone and

FIG. 7.

strength of the conjoined tendon and fascia attached to the coccyx. In some this is thick and stout, irrespective of length, while in others it is thin, yielding, relaxed, and undertoned.

In those patients who have this latter condition, especially if combined with a well-buttressed anterior wall, and an overtoned, unyielding sphincter ani, we have gradually forming a posterior rectocele caused primarily by the firm, unyielding sphincter, and secondarily by the well-supported anterior wall, and especially by the unsupported, or but slightly supported, posterior wall, which yields before the expansion of the accumulated fæces, and is fatigued, and prostrated, and relaxed by its own efforts in the unequal conflict of expelling the constipated contents of the rectum; the recto-coccygeus muscle also, being overstrained in its efforts to draw the pouch of the rectum upward over the fecal mass, has a semi-paresis set in.

Of course, one would not expect to find that marked

[1] Read before the Alumni Association of the Woman's Hospital of the State of New York, 1891.

pouching which often exists in the more relaxed and pliable anterior or vaginal rectocele; yet it is, at times, well marked both in male and female patients, and I am sure I have in past years seen this condition without really recognizing it.

Now, the unfortunate possessor of such a posterior rectocele will, of course, at first complain of constipation —later of the necessity of severe straining; then cathartics and injections play their part, when hæmorrhoids, fissures, slight bloody stools, and soon the patients tell you that they have had to assist themselves with their own hands, by pressing upon the posterior rectal wall just below the coccyx, in precisely the same manner that a patient with a cystocele places her fingers within the vagina and lifts the base of the bladder in order to empty it; and finally confesses to having to cover the finger with the toilet paper and introduce it into the rectum and so unload the bowels, the moisture having all been reabsorbed from the long-retained fæces.

I am not sure but that when the rectum is empty this bagging of the posterior rectal wall *in the male, may give rise to an internal cystocele, as it were, and allow of a partial retention of urine, causing an ammoniacal cystitis, and by a partial prolapse of the prostate gland cause a poor circulation and passive engorgement of that organ.*

The treatment I believe to be simple, but it must be first thorough and then faithfully carried out.

First, I would thoroughly overcome the obstructing sphincter to obtain the condition of Fig. 1. This, by one or more stretchings, must be carried to that degree which shall be even subnormal as to resistance, so that the contents of the bowels may easily pass its portal with as little as possible of the forcible pressure of the abdominal recti, which causes such a strain upon the posterior rectal wall.

Secondly, the bowels must for weeks be regularly moved, and be of at least a semi-solid consistence. If the rectum can be kept empty by a movement night and morning, so much the better.

Thirdly, the faradic current below the coccyx, and up and down the spine, will restore the normal tone of the parts. I like the action of the Brush electrode; also an intra-rectal electrode. *I believe the longitudinal scoring of the rectum, either with the hot iron or acids, would be bad practice until the tone of the coccygeo-anal wall had been restored. This should first be done, and then the relaxed rectal pouch, being again supported by its natural buttress, may be operated upon as seems necessary.*

I have now touched upon the main points of a condition which, so far as I know, has not before been described, and which I believe may be fairly denominated Posterior Rectocele.

It has been suggested that posterior rectal hernia would be a more appropriate term. But as there is no possibility of its becoming strangulated, and as we so often speak of the vaginal or Anterior Rectocele, I have retained the term Posterior Rectocele.

19 East Sixty-first Street.

The Laughing Plant is the name of a plant growing in Arabia, and is so called by reason of the effect produced upon those who eat its seeds. The plant is of moderate size, with bright yellow flowers, and soft, velvety seed-pods, each of which contains two or three seeds resembling black beans. The natives of the district where the plant grows, dry these seeds and reduce them to powder. A dose of this powder has similar effects to those arising from the inhalation of laughing-gas. It causes the most sober person to dance, shout, and laugh with the boisterous excitement of a madman, and to rush about cutting the most ridiculous capers for about an hour. At the expiration of this time exhaustion sets in, and the excited person falls asleep, to awake after several hours with no recollection of his antics.—*Medical Times.*

OXYGEN AS A DISTINCT REMEDY FOR DISEASE, AND A LIFE-SAVING AGENT IN EXTREME CASES.

By A. W. CATLIN, A.M., M.D.,

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Oxygen, although known to the profession for many years, as a remedial agent, has not, until the last decade, received in any sense its true recognition. Like many other agents, it has had its history of tentative experience, only to be relegated to the list of such remedies as are either too expensive, too cumbersome, or too uncertain in their effect, to retain their hold in the mind and heart of the earnest practitioner.

This also means that, in common with other agents having similar experience, it has been left in the hands of a quasi-professional class—non-scientific—whose use of it resulted in no practical good. If, in this article, proof can be adduced to show that this agent is not only a potent remedy, but has a far wider field than is commonly supposed, the object of the writer will be attained.

Primarily, and for a long time exclusively, this agent has been recommended in lung difficulties—more especially to relieve the dyspnœa and cyanotic conditions following in the train of a pneumonia, where a large amount of lung-structure is involved. Another way of stating the fact that its use was deferred until the disease was far advanced, the strength exhausted, and the recuperative powers in abeyance; in other words, a *dernier ressort*, as a palliative and not as a curative.

Fortunately, however, for our patients, another view is now taken of this life-giving agent, and to-day we recognize the fact that if we can, with a limited lung-capacity (such acute but self-limiting disease being present), pass more or less continuously the same quantum of oxygen into the blood as is normally required, when no disease is present, we practically lift our patient to the plane of health so far as functional activity is concerned and give him a hundred-fold more strength to battle with than before. We emphasize this question of functional activity. Disease means limitation and ultimately, if not checked by natural or other means, suspension of such activity. Where, therefore, the natural forces, if sustained, are the curative agents, it is eminently proper to secure by every means in our power a continuance of this activity throughout the whole system until the disease has run its course, and thus conserve the reparative powers so necessary in convalescence.

How often we hear the sad expression, "The disease was virtually conquered, but our patient succumbed because the vital forces were too much exhausted to go on with the recuperative effort;" a statement which we believe is destined to become less and less frequent as the profession realizes the part that this potent factor is to play in the future of medicine. It is our desire to show: 1. That oxygen is the most sure and satisfactory stimulant we have. 2. That by being exhibited through the lungs, and not by the stomach, its entrance into the circulation is much more certain and immediate. 3. That its effect, felt primarily upon the heart, is almost as quickly seen at the nerve-centres and in the digestive organs. 4. That it is pre-eminently the remedy for profound shock, either from hemorrhage or nervous drain, where vitality is at too low an ebb to take up the intricate history of assimilation and repair.

Case I.—Mrs. G——, six months pregnant, after being subjected to a protracted and severe strain by the constant care of a child critically ill with diphtheria, was suddenly taken with a flooding. The hemorrhage was so great and the shock so profound by the time medical aid reached her, it was impossible to move her from the lounge to the bed. A tampon was applied and hypodermics of brandy and strychnia resorted to. All attempts to nourish her by mouth failed. Stomach would not tolerate even water. Pulse scarcely perceptible at wrist. Respiration shallow, eyesight dim, voice but a whisper.

Tampon controlled the hemorrhage, brought on some uterine contraction, and the hypodermics, which were continued, produced some reaction.

In the course of a few hours counsel was sought, to determine the best course to pursue to relieve the uterus of its contents. It was advised to remove tampon and put on forceps if dilatation would admit of it, but the better course was finally adopted of applying the faradic current to the fundus as the last part of the tampon was removed, which caused the uterine wall to contract firmly upon its contents, brought the head promptly down, and quickly completed the birth of child and placenta without any loss of blood, a vital consideration in view of the well-nigh moribund condition of the patient—a result which certainly could not have been obtained if the old method of entering the cavity of the uterus with the forceps had been resorted to, and would certainly have put the life of the prostrated mother in imminent peril. Continuance of the current held the womb tightly contracted, and to use the patient's own words subsequently, gave her power and conscious strength here which she was unable to supply herself. Prostration, however, continued absolute; the stomach still refused nourishment or liquid in any amount, and the character of the pulse indicated a cardiac failure which made the condition very alarming. A fresh cylinder of oxygen was then sent for and its administration watched with the deepest interest. Continuous inhalations were given, and almost immediately a restful, calm expression came into the face. The pulse steadied at the wrist, and soon little naps of refreshing sleep announced that our king of stimulants was doing its work at the nerve-centres. In an hour a teaspoonful of milk and lime-water was taken and retained, and very soon another, till complete tolerance was established; and this in turn was followed by a demand for food, showing that our life-giving agent had reached this vital centre and that powers of assimilation were eager to do their work. The inhalations were continued with longer and longer intervals as the strength returned, convalescence being established and recovery assured in much less time than the gravity of the case gave us reason to expect.

Case II.—Seen in consultation. Mr. H——, a gentleman thirty-eight years of age, of good average health, taken during the grippe period with the prevailing influenza—exasperating bronchial cough and neuralgia; attack resisted treatment and patient gradually weakened, till a passive pneumonia announced itself and grave doubts were entertained of his recovery. At this point oxygen was advised, and almost immediately the patient announced himself as feeling better. The agent was continued and recovery followed in the line of restored functional activity. He breathed better, had refreshing sleep, began to demand and assimilate nourishment, and threw off the passive congestion because of renewed strength.

Case III.—Miss S——, twelve years of age, a scholar at one of our large institutions, naturally of a very nervous temperament, had the duty of speaking in public before the school required of her—a task which so disturbed and excited her, that after the effort was over she was obliged to return home and go to her bed; extreme nausea was present and absolute nervous prostration. Respiration irregular and sighing, pulse feeble and intermitting; patient tossed restlessly from side to side, and stomach refused all food. All other means failing and the patient becoming more and more exhausted, oxygen was exhibited, with immediate benefit, a calm quiet sleep coming—first in brief naps, then more continuously—while the heart steadied and the sighing breathing gradually ceased.

After the sleep of restoration the digestive centres balanced and food was given in small quantities. The gas was continued for a few days, with small but repeated doses of nux vomica, and a rapid recovery made

Case IV.—Seen in consultation, and best told in the words of the attending physician, Dr. Alexander Hutchins. Mrs. W——, anticipating her confinement, December 20th, was attacked with double pneumonia, November 16th. She had endured great discomfort from uterine tumor, the breathing in the recumbent position being much impeded, and the dyspnœa from the pneumonia, added to the restraint by pressure on the diaphragm from below, enforced an erect sitting posture to breathe at all. Her condition was held to be very grave and the prospect of a premature delivery imminent. Labor came on suddenly on the 24th, eight days after the pneumonic seizure, and though the labor was rapid and energetic, the patient was almost moribund immediately after the expulsion of the child. Prompt obedience to the peremptory command of her physician in taking forcible inspirations, restored her breathing. The loss from hemorrhage, the heart strain, the dyspnœa from the pneumonia, all contributed to a profound shock and depression which the various forms of stimulants failed to overcome. Inhalations of oxygen were resorted to, with manifest immediate relief, about thirty hours after the completion of her labor. The inhalation was continued during sleep and while awake, with very rare intermissions, for forty-eight hours, and was kept up less continuously for ten days. It was a substitute for all other medication. The recovery was complete.

It can hardly be questioned that the oxygen saved her life. The insufficient aëration and the weakened circulation would have made absorption from the stomach impossible, stimulants alcoholic or diffusible would have been of no avail, no food could have been digested or assimilated. The ease of the administration of the oxygen was no unimportant matter in this case. It required no effort whatever on the patient's part. The persistance with which it was continued was in part due to the appreciation by the patient that the intermittent use of the inhalation diminished her comfort. The case was asthenic from profound shock. The inhalations of course were never deep. As the lung cleared the inspirations were deeper and the need of the oxygen became less imperative and less frequent. The support of the patient was maintained with uniformity by reason of the steadiness of the oxygen stimulation. The neatness and repose of the treatment are not trivial matters. The stimulation through the lungs, and not by the stomach, is in the course of natural action, and not indirect action.

Case V.—Miss B——, aged nine years, shortly after her return to the city, in September, 1889, was taken with headache, chilliness, and general malaise, gradual rise of temperature, and an increasing prostration that compelled her to take to her bed. The case was diagnosed as one of mild typhoid, but soon developed, at the end of two weeks, so much cardiac weakness as to make prognosis grave. Patient naturally frail and anæmic, complained of sense of oppression and cold extremities. Lips and nails were blue, and at times a dusky hue could be seen over the whole countenance—prostration increasing with growing inability to nourish. The unfailing friend—oxygen gas—was promptly secured, and continuous inhalations given. Heart responded at once—cyanotic condition cleared up, and a gradual but steady improvement ensued. Fever ran its course, but with the oxygen, which was continued two weeks, there was a conscious strength to battle with the disease, which meant victory in the end.

In the above cases, selected from a large number, the principal points claimed for this agent are exemplified, but we desire to emphasize this fact—for it is a fact—that while oxygen is undoubtedly a great burden lifter from the heart in cases of dyspnœa and unsufficient aëration, it is something far more to the nervous system if given with a free hand, as we have indicated. Nature's sweet restorer never has been so successfully wooed as by this suitor, and when the ravelled sleeve of disease has been gathered up by this most potent remedy we see following immediately in its train all the natural processes of repair, wherever such is possible. This then is the point we

desire to lay stress upon: Oxygen is something far more than a mere palliative—a reliever of symptoms, or an urgency-resort to keep the heart going a little longer. It is a distinct remedial agent, and will save life over and over again in such cases where the natural forces only ask for time and functional liberty to do the work.

It is hard to understand the prejudice that has existed so long in the minds of the profession in regard to this agent, and even to-day has to be combated with not a few. Slowly but surely, however, it is being recognized in its mission of helpfulness, and we believe the day is not far off when it will take rank with electricity as one of the two great life-saving agents of our day and generation. Among the cases narrated it was manifestly shown in one, that life was saved first by the localized power of electricity controlling hemorrhage, and later on by the diffused and true stimulants of oxygen, whereby functional activity was continued.

It only remains to add the results of experience as to the best method of exhibiting the agent.

If you would get your best results, you must administer the gas at first freely and continuously, especially in those cases of profound shock where the depleted centres of life must have this true stimulation offered unremittingly, if they are to be encouraged to take up their duty again. Theoretically, only a certain quantum of gas can be absorbed—but facts are stubborn things, and the fact here is, that far more oxygen is absorbed by the blood than has been supposed possible. The only indications for a suspension of its use is a condition at once recognized by the patient, viz., super-exhilaration and dizziness—and this limitation is rarely reached in these extreme cases where the inhalations are not as deep or prolonged as they are when the strength returns and the demand for the stimulant naturally begins to limit itself. In other words, the patient once instructed in its use and conscious of its helpfulness, is the best guide in its administration and can be safely allowed to breathe it ad libitum. The fear is, they will not get enough, not that they will get too much. This, of course, implies that the pure gas mixed with nitrogen, two parts of the former to one of the latter, is being used.

In cases of extreme debility it has been found expedient to draw the gas through the wash-bottle into a small black rubber bag, holding say about five gallons, and then, affixing a large mouth-piece and short tube to this, place it on the pillow by the side of the patient. This saves much strength in the effort of inspiration, and is the easiest way to present it where every particle of the patient's capital must be preserved. Be sure to use fresh gas. Cylinders that have been kept charged over two months show, by the flat taste and odor, that prolonged compression changes the character of the gas and probably, to a degree at least, devitalizes it. Its power as an antiseptic and disenfectant we are all aware of, and is markedly seen in diphtheria where the breath is so foul, and it has been decidedly helpful in the severe types of this disease as a coadjutant to corrosive sublimate. If, after prolonged surgical operation where the patient has been thoroughly saturated with the anæsthetic and, as a consequence, convalescence is tardy and unsatisfactory, oxygen were to be promptly administered, we would find the reparative action wonderfully enhanced and local results far more gratifying.

The objection so often raised to it as a cumbersome remedy, not easily obtained at short notice, no longer holds, for depots are established all over our large cities.

There are many other conditions under which oxygen can be exhibited, always with relief, even if the nature of the case is necessarily fatal; and at the end of a hopeless struggle, when the grim visitor is at hand to claim his own—the poor weary body—it is no small thing to say, that it relieves needless suffering, smoothes the dying pillow, and gently invites into that dreamless sleep, that knows no waking here.

Clinical Department.

LOSS OF AN EYE FROM PURULENT IRIDO-CYCLITIS SET UP BY A BIRD-SHOT.

Enucleation for the Prevention of Sympathetic Ophthalmia; two Eyelashes Found Attached to the Shot.

By DAVID WEBSTER, M.D.,

Professor of Ophthalmology in the New York Polyclinic and in Dartmouth Medical College; Surgeon to the Manhattan Eye and Ear Hospital, New York, etc.

Mr. J. D. C——, aged fifteen, was brought to my office by his family physician on account of an injury of his eyes on September 4, 1890. In my absence, my associate, Dr. S. M. Payne, saw the patient and elicited the following history: Two days previously, Mr. C——, while out shooting birds, fell against a rock with his loaded gun in his hand. The gun went off as it struck the rock and while his face was within a foot or two of its muzzle. The charge struck the rock and rebounded with great velocity, several of the shots embedding themselves in the skin of his face and forehead. His brother picked out several from beneath the lids of his left eye. One had produced a central abrasion of his left cornea, and one had penetrated his right eyeball, destroying the sight immediately. His physician had been sent for upon his return to his home and had removed such shots as he could find, and had applied atropine and iced cloths locally with the view of preventing or allaying inflammation until the patient had sufficiently recovered from the shock to be brought to the city, a distance of some fifty miles.

Dr. Payne noted the following conditions when he first saw him: "R. V. = sees fingers at three inches above the horizontal meridian. L. V. = $\frac{20}{20}$.

"The right eye has been painful and sensitive to light ever since the injury. There is a perforated wound of the cornea near its temporal border and a corresponding opening in the iris. The lens is cataractous, and with the ophthalmoscope no reflex from the fundus can be obtained. There is irido-cyclitis as shown by chemosis and by pain on pressure upon the ciliary region above. The tension is increased (+ 1.) and there are the remains of a mostly absorbed hemorrhage into the anterior chamber. The ophthalmoscope shows that the lens and fundus of the left eye are normal; but there is a central abrasion of the cornea, and several ecchymotic spots are seen on the conjunctures."

Dr. Payne, appreciating the gravity of the case, expressed the opinion that the eye would have to be enucleated; but thought it wise to fortify himself with a consultation. He therefore sent the patient to Dr. Noyes, who kindly examined him and sent him back with the following written opinion: "There can be no doubt about the shot being in Mr. C.'s eye, but I would treat the case expectantly, using atropine and cold water. The question of enucleation can be decided later. I am not in favor of its immediate performance. Increase of tension does not call for any special interference. If reaction should become considerable, leeches can be used, and the pain can be controlled by phenacetine."

I first saw the patient on the evening of the 6th, four days after the accident. The conditions were the same as described above, except that the vision of the right eye was reduced to perception of light. The iced cloths and atropine were continued; the patient was leeched; and phenacetine was given for the relief of the pain.

On the 8th, or six days after the injury, as the eye was in every way worse, the iris having a purulent look, the chemosis being greater, and the ciliary tenderness and tension of the eyeball were still more increased, I advised enucleation. Dr. Thomas R. Pooley was called in and, after careful examination, unhesitatingly advised the same. On the afternoon of the same day, aided by Dr.

Thomas R. Pooley, Dr. S. M. Payne, and Dr. E. A. Kirkpatrick, I enucleated the eyeball, the patient being under ether.

The recovery was normal, and in due time the patient was furnished with an artificial eye.

On September 16th, the vision of the left eye was $\frac{20}{20}$ +. The enucleated eyeball was put in Müller's Fluid and given to Dr. Bennet S. Beach for microscopic examination. The following is his report:

"Cornea shows track of wound near sclero-corneal junction, filled with fibrinous material and pus-cells. Iris inflamed. Layer of pus-cells over anterior surface. Anterior synechia at point of injury to cornea. Some of pigment-cells of iris carried forward into wound. Iris shows perforation at this point. Lens surrounded by layer of pus-cells. Portion adjacent to track of wound degenerated. Ciliary bodies infiltrated with pus cells. Large amount of plastic exudation posterior to lens which has been pushed forward obliterating anterior chamber. In the centre of the exudation was a small piece of lead. This was surrounded by a thick layer of pus-cells. Attached to the lead were two eyelashes. Retina, totally detached."

The case as reported above tells its own story, and scarcely needs any comments. It was certainly a remarkable and surprising thing that the shot should have carried two of the eyelashes into the vitreous humor along with it. I suppose that the chances were nearly all that sympathetic inflammation of the fellow-eye would have been caused if the inflamed and sightless eye containing the foreign bodies had not been enucleated.

BILOBED UMBILICAL HERNIA—OPERATION—RECOVERY.

By J. M. SLIGH, M.D.,

GRANITE, MON.

I REPORT the following case, not because successful operation for umbilical hernia is rare, but for the reason that this case presents some features of rare occurrence in an anatomical point of view.

May 5, 1891, Mrs. M. J. McD , widow, aged thirty-eight, about two hundred pounds in weight, sent for me, and upon arrival I found her suffering from intense colicky pains, localized in the region of the umbilicus, and attended with nausea, and an expression of anxiety or apprehension. Examination revealed a temperature of 99½° F., pulse 108, and a tumor about the size of an ordinary orange involving the umbilicus. She informed me that the tumor had existed about six years, sometimes being larger than at other times, occasionally giving rise to pains of short duration, and that when the tumor was larger than usual, upon lying upon her back it would decrease in size, this decrease being accompanied by a dragging sensation and a gurgling sound. This time the pain had lasted for two days, there had been no movement of bowels during that time, and the patient had vomited twice. The tumor was flat on percussion over its entire surface, and of a semi hard, doughy feel. Ordinary efforts at reduction failing, and believing the contents of the tumor to be mainly omentum, I ordered an anodyne, rest on the back, and hot, moist applications continuously until I should see her again. On the morning of May 6th her condition was unchanged, and I recommended an operation to which the patient readily assented. At 5 P.M. May 6th, assisted by Drs. W. I. Power and W. H. Allen, I performed herniotomy by a longitudinal incision over the tumor in the median line. Upon cutting through the skin about three drachms of clear, watery fluid escaped, and the cellular tissue was exposed, intimately adherent to which, by organized bands, was a mass of omentum, a part of which, about the size of an English walnut, was nearly black and apparently as hard as a stone, the cicatrix of some previous inflammatory action. The adhesions were broken by my fingers and the handle of the scalpel, and the constricting point searched for. The umbilical opening was large, circular in form, and did not appear to constrict the tumor in the least, notwithstanding which I was unable to reduce any part of the protruding omentum. The cause was found to be a longitudinal band, fibrous in character, to the sides of which, and above it, the omentum was adherent, rendering the hernia bilobed. Dividing the omentum in the median line, and separating it from the constricting band, I ligated the whole protruding mass, in two portions, cut it off, returned the stumps with the ligatures to the abdominal cavity, cut out the constricting band, scraped the edges of the umbilical opening, and drew the sides in opposition by two strong sutures, tied and cut short.

The outer wound was closed by seven deep sutures, and the usual dressings were applied. All sutures and ligatures were of silk, soaked in carbolized water, and the operation was made under aseptic conditions rather than antiseptic.

Twenty-four hours after the operation the patient's temperature was 102½° F., and pulse 120, both of which became normal within the following twenty-four hours, after bowels had been freely moved by three or four doses of salts (Magnesii Sulphate). Six days after the operation the dressings were removed, the sutures taken out, and the wound found to be healed by first intention, excepting a very small opening at the lower extremity, through which some suppuration subsequently occurred.

Ten days after the operation the patient was out of bed, and three weeks after the operation she resumed her household duties.

The points of special interest in this case appear to be the entire absence of a peritoneal covering, and the presence of a constricting septum or band, forming a bilobed hernia, together, probably, with absence of unfavorable symptoms arising from buried sutures and ligatures of silk.

Progress of Medical Science.

Subcutaneous Injection of Arsenic.—It is again asserted that the subcutaneous injection of arsenic is less poisonous than its administration by the mouth. Arsenic locates itself in the stomach, the liver, and the upper intestines. Introduced into the skin, arsenic enters the general circulation without being arrested at the liver, which is undoubtedly the elected spot of mineral salts. It is observable that Fowler's solution is unsuitable for subcutaneous injection; it produces an irritation of the connective tissue by the presence of free arsenious acid. A solution of arseniate of soda, which is stable, provokes no more irritation than pure water.

Anatomy of Tubal Pregnancy.—Two cases are recorded occurring in the practice of Dr. Landau. In the first case the patient died in a few minutes after the arrival of the physician. In the second the patient's condition was so poor that no operation could be attempted. But in spite of rupture the patient rallied and made an excellent recovery. In Case I. the autopsy revealed a rupture of the right tube. The decidua was removed from the uterus. In Case II. pieces of decidua came away. Careful microscopic examinations were made of the specimens, and from these the following are formulated: In tubal pregnancies occurring in the fourth and fifth week we find—1. That the endometrium is about to become changed into a decidua. The compact layer, the so-called layer of Friedländer, is not fully formed. 2. The superficial epithelium of the decidua uterina is intact as late as the middle of the second month, although its form is materially changed. 3. The vessels which are found in the superficial layers of the decidua uterina are in all probability arteries and veins. 4. The ovary and tube on the unimpregnated side remain unchanged. The ovary containing the gravid corpus luteum is enlarged

5. The cause of tubal pregnancy may be assumed to be due to a diverticulum in the walls of the tube or a marked tortuosity of the same. 6. That portion of the tube not included in the impregnated sac usually remains unaltered. 7. A decidua tubaria vera is formed upon the mucous membrane of the tube, having its greatest amount of development at the poles of the ovum. The superficial epithelium of the decidua serotina disappears, and is replaced by the endothelium of the freely communicating capillary vessels. 8. In the majority of the cases no decidua tubaria reflexa is formed. If one is formed it differs entirely from the uterine reflexa, owing to its small number of vessels. 9. The attachment of the chorionic villi to the decidua tubaria is extremely loose in the beginning of the pregnancy, but in some situations a complete union between the two is found. 10. The epithelium of the chorionic villi is of the three varieties. The maternal capillary endothelium lies external to a double layer of fœtal epithelium. 11. The intervillous spaces are composed of dilated maternal capillaries, whose walls are not penetrated by the chorionic villi.—*Medical and Surgical Reporter.*

Nephrorrhaphy and Its After Effects.—This operation has been performed fourteen times by Dr. Tuffier for movable kidney. There are three orders of symptoms produced by this disease: 1, Pain; 2, gastric disturbances; 3, neurasthenia. There are, therefore, three clinical types of movable kidney. The painful form, with or without hydronephrosis, is the most frequent and is the most favorable for treatment, since in ten cases pain disappeared entirely after the operation and in three other cases pain was much relieved. The dyspeptic form is less common (two cases) and is accompanied by enteroptosis or hepatic lesions. The neurasthenic form is also rare; it includes the entire gamut of nervous symptoms, as well as hysteria. There are two absolutely distinct etiological varieties from a therapeutic point of view: the simple movable kidney or traumatic displacement, which is a true dislocation; a forcible hernia, the rest of the abdominal belt being unaffected. Operation in such cases is the triumph of nephrorrhaphy. The movable kidney with complications is a slow and progressive displacement, preceded, accompanied, or followed by Glenard's enteroptosis. In such cases the nephroptosis is only incidental, there is a weakening of the abdominal walls, which should be supported by a belt and invigorated by massage. Out of ten patients operated on, after an interval of more than four months, one only was attacked by congestive outbreaks. The nine others, all recently examined, have firm cicatrices without any tendency to hernia; the kidney is fixed and forms part of the abdominal wall, but may be readily distinguished over the greater part of its extent. Pain has been relieved in every case with one exception, and in that case there is enteroptosis. Such results are encouraging. M. Tuffier believes that nephrorraphy should maintain its position as a legitimate operation in renal surgery. It is a mild operation, as in 149 cases the mortality is only 3.4 per cent. It is efficacious, since out of seventy-three typical operations in eight per cent. the patients were either cured or much relieved. The success would be yet greater if a careful selection of cases were to be made.—*L'Union Médicale.*

Resection of the Lung.—Dr. Tuffier presented at a recent meeting of the Société de Chirurgie, a patient on whom he practised in March last excision of the summit of the right lung for localized tuberculosis, and gave the details of the operation. Before attempting the extirpation of the parenchyma of the lung, Dr. Tuffier made several experiments in the amphitheatre on ligature of that part of the organ. Through a small intercostal incision he tried to separate the pleural covering from the lung and get a ligature around it, but although he found it easy enough to detach the pleura above, in front, and behind, it was not so on the inside, and as the thoracic canal and the phrenic nerve are intimately attached at that point to the pleural layer he was afraid of including them in the ligature, and consequently abandoned all attempt in this direction, and decided on performing resection of the diseased parts. And this decision gave rise to a series of questions to which he could not find a satisfactory answer at the moment. How would the lung-tissue bear a ligature? What are the mode and rapidity of reparation of the loss of substance? What should be feared from the innumerable vessels of the organ? How would the void left in the thoracic cavity be filled? In order to fix himself on these important points he resected the summits of the lungs of several dogs, and the result of his experiments was that the wound rapidly healed and that the void was quickly filled by expansion of the parenchyma, provided the part resected was not too considerable. His first patient was a man on whom in November last he performed the radical cure for hernia of spontaneous origin. The tumor occupied the sacral intercostal space. When he had made the incision he detached the pleura with his finger, and pushed it up to the summit, and explored the region, as the man's appearance was such that tuberculosis was suspected. The lung felt velvety to the touch, and if any induration had been present it would have been easily detected. The wound was then closed, and in a week the patient was cured of his hernia, and experienced no inconvenience from the exploration. In a second patient resection was really practised. The man, aged twenty-five, was of stout build, and enjoyed perfect health until two months ago, when he was attacked with cough, night-sweats, and tuberculous laryngitis, and for which he entered the hospital. Auscultation revealed the following symptoms: At the top of the right lung submatité, respiration rude and jerky, expiration prolonged, and dry crepitation in coughing; the left lung was perfectly healthy, and the patient, being made aware of his condition, accepted the risks and perils of operative interference, especially as medical treatment but little changed his condition. The *modus operandi* was as follows: A cushion being placed under the back so as to efface as much as possible the subclavicular fossa, an incision was made through the second intercostal space to within half an inch of the sternum; the great pectoral and the intercostal muscles were similarly incised, and the pleura brought to view, which being cut in turn, the tissue of the lung appeared. The operator then passed in his finger and detached the serous membrane above and without with comparative ease, but when he reached the inside the membrane yielded, and immediately a hissing sound occurred, indicating an escape of air or the formation of a pneumothorax. The finger was applied to the spot, and subsequently a plug or iodoform gauze. Continuing the operation, M. Tuffier passed his finger behind the summit of the lung, and seizing the tissue with a special flat forceps drew it forward, threw a ligature around it and fixed the pedicle to the periosteum on the internal side of the second rib. The muscles were then sutured and the wound dressed with iodoform. The piece resected was examined, and in its centre was discovered an induration of about the size of a small walnut, and surrounded with tubercles in which bacilli existed. The man made a rapid recovery, and a minute auscultation of the lung showed that the respiratory murmur, although a little weakened, was present throughout the whole organ without revealing the slightest sign of a pleural effusion.—*Medical Press.*

Sounding the Depths of Medical Practice.—The medical adviser of a friendly society in Bath advertises that he will undertake the medical treatment of all and sundry at the economic rate of "one penny weekly for adults, and one halfpenny for children." We ought, we suppose, to be gratified that medical fees have not yet come down to decimals of the humble penny.—*Medical Press.*

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FUNCTIONAL ALBUMINURIA.

THE subject of functional or intermittent albuminuria is one that continues to hold the interest of physicians, despite the frequent contributions to it. This is natural, because the matter is one which is not yet satisfactorily settled, and because upon it depend the future of many individuals as well as the business interests of many large corporations. In a recent article entitled "The Varying Significance of Intermittent Albuminuria," by Dr. John Winters Brannan (*New York Medical Journal*, July 4, 1891), the subject is presented in a comprehensive and systematic manner, while in an earlier article on "Albuminuria in Persons Apparently Healthy," by Dr. William B. Davis (MEDICAL RECORD, June 13, 1891), many facts of practical importance are collected.

It is conceded on all sides that there is a functional albuminuria which is usually intermittent in character, and which does not necessarily indicate structural disease of the kidneys. The questions to be solved are the pathology of this condition, the methods of recognizing and treating it, and of deciding as to the prognosis. With regard to the pathology, an immense number of observations and studies have been made. These all go to show that functional albuminuria may have widely different causes. Although in a single case several factors may be at work, they can be broadly differentiated, according to Dr. Brannan, into three classes: 1, the dyscrasic, 2, the mechanical, and 3, the neurotic.

The various subdivisions are shown in the following scheme:

Class I. Dyscrasic.	Hetero-albuminæmia. Digestive. Oxaluric. Hepatic. Gouty.
Class II. Mechanical.	Cyclical. Albuminuria of adolescents.
Class III. Neurotic.	Mental anxiety. Intellectual effort. Excessive physical fatigue.

Under the dyscrasic class come those forms due to the presence of dialysable albumins in the blood, which in turn are due to deficient activity of the skin, excess of albumin in the blood from various causes, deficient action of the liver, digestive disturbances, etc. The albuminuria of persons with a gouty tendency, or oxaluria, comes under this head.

Under the head of mechanical types of albuminuria come the cyclical albuminuria of Pavy, which is found in persons of weak circulation and low vaso-motor tone. The albuminuria is thought to be due to a venous stasis. Such patients have albuminuria a few hours after rising, owing to the fact that an increased weight of blood is thrown on the renal veins.

Neurotic albuminuria occurs in persons who suffer from severe worry and mental strain. It is thought to be due also to a weakened state of the renal vaso-motor centres causing venous stasis, so that there is here an underlying mechanical element, as there is also in the albuminuria following physical exercise.

As to the frequency of functional albuminuria, Dr. Lambert, quoted by Dr. Davis, says that among apparently healthy persons applying for life insurance the percentage of cases of albuminuria is two per cent., rising to five per cent. in very cold or very hot weather. Dr. Brannan says: "In the course of the last seven years I have examined 365 persons, mostly males, for life insurance. Of this number, 54, or 14.8 per cent., had more or less albumin in their urine. This is probably a much larger percentage than would be found in the general population. The same fact has been noted in England, and Dr. Rabagliati explains it by saying that the well-to-do who apply for life insurance suffer more from urinary diseases than the ordinary population, mainly because well-to-do people eat and drink too much. For the purposes of comparison, I examined, a few years ago, the urine of 100 consecutive male patients at the Roosevelt Hospital Out-door Department. In not more than five per cent. did I find albumin without other symptoms of Bright's disease."

Thus it may be assumed that in adults the percentage of cases of functional albuminuria ranges from two to five.

With regard to the prognosis of such cases, opinions have to be formed for each individual case. On the whole, it may be said to be favorable, yet the condition is always pathological, and not free from dangers.

General rules for dealing with such cases cannot be better formulated than is done by Dr. Davis in the article referred to.

HOW TO PREPARE ARTICLES FOR THE MEDICAL RECORD.

WE have taken the opportunity at various times to make certain suggestions to our correspondents as regards the method of preparing their manuscripts. A series of golden truths for writers has just been published by Miss Thackeray in *The Epoch*, and the series is so valuable that we beg to call the attention of our contributors to them. The advice applies just as well to medical as to lay writers.

"Let your paper be white," says Miss Thackeray, "of good quality, fit for ink, and let that ink be black. Don't use pencil; the countless hands that finger your manuscript, from the lord high admiral editor down to the printer's devil, will rub and blur it into illegibility.

"Make your writing legible, especially the proper names, even if you have to sacrifice some cherished flourishes and artistic shadings. Eschew shading, a sprawling hand, and a Gillott's pen 404. What is known as the 'literary

hand'—a small compact hand, almost upright—is the best economy of time and space. If you print your proper names with a pen, the editor will be doubly grateful. Use a stub pen if you can, and black ink that will not rub after it is dry. Violet ink, particularly on orange paper, which some authors affect, rubs, fades, and stares the tired editor's eyes out of countenance.

Avoid blots and interlineations as you would the Black Death.

"Six by nine inches is an excellent size of sheet on which to write. Never, never, inflict foolscap upon a long-suffering editor. Foolscap paper is heavy, awkward to handle or put down, occupying too much space, covers the case of the compositor, and jostles and breaks its corners in Uncle Sam's mail-bag. Letter-paper size may be pardoned, especially in a type-written manuscript, but foolscap, especially if it be rolled, is the nightmare of an editor. Several magazines advertise that they will return rolled manuscripts unread; one desperate domestic periodical announces that all such manuscripts will be burned unopened.

"Revision nearly always implies condensation. Strip your manuscript of all unnecessary verbiage, and it will have a much better fighting chance. Carefully count the number of words. I think if I could give the beginner but one bit of advice it would be this: Five hundred words too much will sometimes swamp the ship and sink your craft to the bottom of the editorial waste-basket.

"As to faults of ignorance, it ought to be unnecessary to remind the beginner that no one has a right to inflict a misspelled, poorly-paragraphed, ungrammatical article upon a long-suffering editor. If you can't spell correctly or write grammatically, or punctuate and capitalize with at least ordinary regard for the rules of John Wilson, shut your desk down upon your epic and open your grammar and your rhetoric. You are handicapped in the race."

THE CONQUEROR OF SEPSIS.

Undoubtedly one of the most fruitful and practical fields for bacteriological study at the present time is the search for an agent which will kill infectious organisms in the body, and not cause death to the circulator of these organisms.

Up to the present time, says Dr. Roswell Park, in his Mütter Lectures, "no substance has been discovered whose absolute toxicity is not greater than its relative. In other words, we have not yet discovered that which will not kill in the animal in $\frac{1}{4}$ or $\frac{1}{5}$ of the proportion required to kill bacteria. When we have discovered that one of which this cannot be said, we shall have learned to conquer sepsis. In many respects the serum of certain animals most nearly approaches this desired substance, but this only for certain bacteria. It is, for example, known that anthrax bacillus will not grow upon rat-blood serum, although it will upon serum from other animals. Streptococci will not grow on calves-blood serum—only on rabbit-blood. Within the past few years numerous investigations have been made regarding the antiseptic properties enjoyed by blood-serum, from which it would appear that it affords the greatest protection which our systems enjoy to have circulating in our blood serum of this healthy character.

"Studies like these were begun ten years ago by Koch, who himself carefully tested some two hundred different substances. He then turned over the work to Behring, who has investigated half as many more. Only very recently has any statement emanated from the master or his assistants indicating that any such substance had been discovered. Recent utterances of Koch imply that he thinks he has at last found it, at least so far as animals are concerned."

We can only hope that if Koch has found anything this time, he will not feel compelled to disclose it until the facts are established. A few more disasters like tuberculin would set back scientific medicine fifty years.

OLIVER WENDELL HOLMES, M.D.

Eighty-two years ago to-day that genial writer and kindly poet, and erstwhile physician, Oliver Wendell Holmes, was born in Cambridge, Mass. Although he some years since formally announced his withdrawal from the ranks of the medical profession, and soon after emphasized the fact of his retirement by the gift of his medical books to a public library, yet, as he himself says, in a letter published in another column, he still retains his interest in all matters relating to the profession; and even did he not we should ever claim him as a brother. He may not be a practising physician, but he is still a member of the medical profession; and on this day, when literary societies and friends are pouring in their congratulations, we, as fellow-medical men, claim the privilege of sending him greeting, and of wishing him yet many years of tranquil and peaceful enjoyment of this good world, which he has made both better and happier by the example of his life and by his work.

News of the Week.

A Conference of Hospital Medical Boards.—Dr. Louis A. Rodenstein, of this city, has addressed a circular letter to the medical boards of many of the hospitals in this and neighboring cities, suggesting the formation of an association of hospital physicians and surgeons. During the past few years, he says, such rapid strides have been made in the development of our hospitals, and such important changes made in the management, construction, furnishing, ambulance service, etc., in the different institutions, as increasing experience proved necessary, that, could representatives from the different hospitals be brought together to discuss this subject, much benefit would result to all. If such an association be formed, it is proposed to hold the first meeting in Washington, in September, in conjunction with the Congress of American Physicians and Surgeons. A preliminary meeting to settle the details of organization will be held at the Academy of Medicine, in this city, at an early date.

New York State Society of Railway Surgeons.—The preliminary steps are being taken to organize a society of railway surgeons in New York State. Surgeons throughout the State interested in railway surgery are invited to communicate with Dr. George Chaffee, 201 Forty-seventh Street, Brooklyn.

The Sixty-fourth Annual Meeting of German Naturalists and Physicians will be held in Halle from September 21st to 25th. Among the addresses announced are the following: "The Limits of the Healing Art," by Professor Nothnagel, of Vienna; "The Art of Prolonging Human Life," by Professor Ebstein; and "Edward Jenner and the Immunity Question," by Professor Ackermann.

The British Pharmaceutical Conference held its annual meeting in Cardiff, August 17th, 18th, and 19th, under the presidency of Mr. Martindale, of London.

Female Medical Students in India.—Lady Dufferin's scheme of educating women for the practice of medicine among the native women, who would never be permitted to receive a male physician, is now in active operation. There are twenty-six students under training in the Madras Medical College, of which number six are being trained for the Hospital Assistant's grade, and the rest for the Apothecary's grade. Six of these students, three in each grade, are expeeted to graduate in a short time.

A Letter from Dr. Holmes.—The following letter from Oliver Wendell Holmes, to the editor of the *Australasian Medical Gazette*, acknowledging the receipt of some papers relating to the practice of medicine and surgery in New South Wales, appears in a recent issue of that journal:

"BOSTON, April 25, 1891.

"MY DEAR SIR: I thank you most cordially for the very important and interesting papers relating to quackery as it appears in your great colony. Although it is a very long time since I have practised medicine, I retain my interest in all matters relating to the profession, and am glad to add these valuable documents to my library, for the present, but to go eventually with the rest of my medical books, which I gave some years ago to the Boston Medical Library.

"Believe me, dear Sir,

"Very truly and gratefully yours,

"OLIVER WENDELL HOLMES.

"THE HON. JOHN M. CREED, Sydney."

American Association for the Advancement of Science.—At the meeting of this Association, held in Washington August 19th to 25th, there was a dearth of papers possessing any strictly medical interest; for out of some two hundred and fifty papers read before the eight sections, only the following seem to deserve mention here: Dr. Theobald Smith, of Washington, read a paper before the Biological Section on "Uses of the Fermentation-tube in Bacteriology," with demonstrations. The fermentation-tube was applied to bacteriological work by Miquel, in 1889, and independently by Dr. Smith at about the same time. The object of the speaker was to call attention to its value in the differentiation of closely allied species or varieties of bacteria, in the preliminary study of gas production, and in the cultivation of anaërobic forms. It was also useful in demonstrating in the class room the very active metabolism of bacteria. Experiments with the tube showed that the bacteria of typhoid do not cause an evolution of gas. Professor Joseph Jastrow described tests he had made with a young man who had been born without the sense of smell. The object of the tests was to find out just what things are really tasted in eating, and what are only perceived through olfaction. The committee of the Chemical Section on spelling and pronunciation of chemical terms, made their final report, which will be printed and distributed to chemical laboratories throughout the country. Professor L. P. Kinnicutt read a paper before the Chemical Section entitled "The Purification of Worcester Sewage by Chemical Precipitation." The sewage of Worcester contains a large quantity of the waste products of various manufacturing establishments, and an unusually large amount of free acids and iron salts. The method in use for the purification of the sewage is the one known as the Carpenter process. Lime is added until the sewage is just alkaline, and by this process all the suspended matter in the sewage is removed and the total organic matter is reduced over two-thirds. The effluent is clear and colorless, without odor, and, though by no means drinking-water, can cause no nuisance when run into a stream whose volume is not over five times that of the effluent. Dr. Walter Maxwell read a paper on "Biological Functions of the Lecithines." In a paper presented by Mr. Maxwell at the 1890 meeting of the Association, he showed that a vegetable organism, during the initial stages of growth and under the action of the ferments operating in germination, possesses the power of taking the phosphorus present in seeds or in soils as mineral phosphates, separating the phosphorus from the inorganic combination and causing it to reappear in the young plant, but in an organic form as a lecithine. In this second paper he showed that the lecithine bodies, on the other hand, present in the animal kingdom revert to the mineral form under the action of the ferments present in the animal organism. The investigations of Mr. Maxwell have therefore shown that the lecithine bodies are a medium through which phosphorus conducts its circulation between the three great kingdoms of nature, passing from the mineral, through the vegetable, into the animal kingdom, where it reappears as a mineral compound. The attendance of members was larger than at any other meeting for several years, notwithstanding the heat. Professor Joseph Le Conte, of California, was elected President, and Rochester, N. Y., was selected for the meeting next year.

Public Baths in New York.—The Association for Improving the Condition of the Poor has erected a building on Centre Market Place, in this city, in which anyone in need of a bath can wash and be clean. There are twenty-five bath-rooms in the building, and one thousand people can be accommodated there each day. The charge for a bath, including a new cake of soap and the use of a large crash towel, is only five cents, and free baths are given to those who cannot afford to pay this small sum. The new bathing establishment is the result of a movement started some years ago, at the instance of Dr. Baruch, Chairman of the Committee on Hygiene of the County Medical Society. The Demilt Dispensary also offers facilities to the poor in bathing, having within a few days set up seven bath-rooms in the basement of its building on Twenty-third Street. The fee for a bath is here ten cents, but this charge is remitted if the applicant is unable to pay. If this experiment proves a success the trustees of the dispensary propose to convert the entire basement into a bath-house, there being room there for forty or more rooms.

The Health of the Pope.—A correspondent writes from Italy to *The Lancet*, concerning the reported grave illness of the Pope, as follows: "Leo XIII. is an octogenarian, who leads a busy life, sometimes, indeed, so very busy that his strength is hardly equal to the strain imposed on it. On these occasions there is generally a recrudescence of two chronic ailments—to wit, intestinal catarrh, with sympathetic response of the renal organs. Moreover, with advancing years, he has betrayed something like the initial stages of senile anæmia. These symptoms concurring after an unusual press of business are apt to terminate in considerable prostration of the bodily powers, the mind remaining clear and active; and this prostration is, in turn, followed by extreme, sometimes alarming, somnolence. From this, however, his Holiness always emerges with renewed strength, and a general abatement of the complications, to resume his learned labors and meet the demands, administrative or diplomatic, of his post. His health is carefully and skilfully watched by physicians devoted to his service."

International Dermatological Congress.—The second meeting of this society will be held in Leipsic on September 17th, 18th, and 19th.

Vaccination Statistics.—In Riga, a city of 180,000 inhabitants, there were some 6,500 belonging to a religious sect living by themselves in a certain quarter of the town. These people opposed the practice of vaccination on conscientious grounds. Between the years 1882 and 1887 the average mortality from small-pox in the city was 108 annually. From December, 1886, to the end of March, 1887, about four months, there were 155 deaths from this cause, owing to a slight epidemic during that period. Of this number 71 occurred among the orthodox population, equal to 109 per 10,000, while the deaths among the remaining inhabitants only numbered 84, equal to 4.8 per 10,000. Down to the year 1887, as stated above, the average number of deaths annually from small-pox was 108. After this epidemic vaccination and re-vaccination were largely enforced, with the result that from 108 the annual number of deaths due to this disease fell at once to 8.

Dr. C. L. Gummert, of Brownsville, Pa., died recently at his home, of pulmonary phthisis. He was treated last winter in Berlin by the Koch method, but derived no material benefit from it. He was a member of the Pennsylvania State Board of Health.

Yellow Fever in New York.—Several suspicious cases of fever have occurred in and around this city in the past few days, the sufferers having been passengers on the steamer Santiago, which arrived from Cuba on August 21st. Investigation by the health authorities has shown that the disease was a pernicious remittent and not yellow fever. That it was not the latter is fortunate. At least six of the passengers on the steamer are now known to have been sick on the day of their arrival in this port, yet the vessel seems to have passed through Quarantine without any detention. While it is possible that the medical officers may have been a little less careful than they should, yet they may not be in the least degree responsible, as it would be a comparatively easy matter for the fact of a man's being ill to escape the eye of the inspector as long as the patient was able to be on deck. But this occurrence emphasizes the necessity of having surgeons on passenger steamships running to the tropics, a matter brought up by the Health Officer in his last annual report and referred to recently in these columns. A surgeon on the steamer during the six days' voyage from Cuba would have had time to examine these cases carefully and to make a rational diagnosis. He would have reported them to the medical officers at Quarantine, the liability of an error in the diagnosis would have been reduced to a minimum, and a good many timid people would have been spared the shock of a yellow-fever scare.

Rabies in Austria.—The Austrian health authorities have been collecting statistics in regard to hydrophobia in that country. They have ascertained that the number of dogs attacked by the disease is from 700 to 800 annually. The number of persons annually attacked by dogs thus infected is from 250 to 430, showing a total of 3,021 cases during the past ten years. The deaths during this period numbered 822.

One Hundred and Eight Years Old.—Mr. Jacob Steel, who died at a small town near Pittsburg, Pa., on August 24th, was born in Fayette County, in that State, on October 19, 1783, and would consequently have been one hundred and eight years old had he lived eight weeks longer. He used to say that he remembered distinctly the day of Washington's second election to the Presidency, and his first vote was cast for Jefferson. His habits were simple, he was rather careful in his diet, drank a little whiskey occasionally, but never used tobacco. What probably contributed as much as anything else to the prolongation of his life, was a cheerful disposition and a remarkable evenness of temper.

Contaminated Croton Water.—The chemist to the Health Board has found in a number of recent analyses of the water supplied to this city traces of nitrites, presumptive evidence of sewage contamination. And unfortunately an inspection of the Croton water-shed bears out this evidence of contamination furnished by chemical analysis. Drains from slaughter houses, factories, barns, cemeteries, and dwelling-houses are found emptying into the streams that feed our water-supply, and the wonder only is that a dangerously foul condition has not been reached before.

Arsenic Poisoning from Coal.—A source of contamination with arsenic recently pointed out is from coal. When coal is burnt it is roasted out and it is the only product of the coal which is at first volatile, and afterward non-volatile. A part of the smoke that goes into the air is arsenious acid mixed with carbon, and a large part of it lodges in the chimneys. Now take a city like London, or any of the great English cities where coal is burnt very freely, there the quantity of arsenious acid that is given into the air must be very considerable, and it would be interesting to make comparative tests of the urine of persons in a city like Boston and in a city like London. The English coal is very bad coal in this respect. Every ton of coal burns off about twenty to forty pounds of sulphur. That sulphur is transformed into sixty pounds of sulphuric acid, which has left its stain on every marble building in London. I speak of the sulphur because the sulphur is largely accompanied by arsenic.—Professor Crafts in *Boston Medical and Surgical Journal.*

American Surgical Association.—The following is the programme of the annual meeting of this Association, to be held in Washington, September 22, 23, 24, and 25, 1891. 1. "Present Status of Brain Surgery," by Dr. D. Hayes Agnew, of Philadelphia. Discussion by Mr. John Chiene, of Edinburgh, Scotland, Dr. W. W. Keen, of Philadelphia, Pa., Dr. C. B. Nancrede, of Ann Arbor, Mich., Dr. Roswell Park, of Buffalo, N. Y. 2. "Report of the Committee on the Results which Should be Considered as Satisfactory, of Treatment of Fractures of the Shaft of the Femur," by Dr. Stephen Smith, of New York. 3. "Aseptic and Antiseptic Details in Operative Surgery," by Dr. A. G. Gerster, of New York. Discussion to be opened by Dr. Robert F. Weir, of New York. Dr. J. Collins Warren, of Boston, Mass., Dr. J. William White, of Philadelphia, Pa., Dr. Joseph Ransohoff, of Cincinnati, O. 4. "Surgical Treatment of Injuries and Diseases of the Vertebral Column," by Dr. J. William White, of Philadelphia, Pa. Discussion: Dr. Maurice H. Richardson, of Boston, Mass., Dr. H. H. Mudd, of St. Louis, Mo., Dr. John B. Roberts, of Philadelphia, Pa., Dr. Charles B. Porter, of Boston, Mass., Dr. Robert Abbe, of New York, Dr. W. W. Keen, of Philadelphia. 5. "On Retro-peritoneal Abdominal Tumors, and Especially those Involving the Kidney," by Dr. A. Vander Veer, of Albany, N. Y. Discussion: Mr. Reginald Harrison, of London, England, Dr. Robert Abbe, of New York, Dr. William T. Bull, of New York, Dr. Frederick E. Lange, of New York. 6. "Recurrence of Cancer of the Breast," by Dr. Frederic S. Dennis, of New York. Discussion: Mr. Thomas Bryant, of London, England, Dr. Hunter McGuire, of Richmond, Va., Dr. Lewis S. Pilcher, of Brooklyn, N. Y., Dr. D. Hayes Agnew, of Philadelphia, Pa., Dr. L. McLane Tiffany, of Baltimore, Md. 7. "The Treatment of Tuberculosis of Bones and Joints by Parenchymatous and Intra-articular Injections," by Dr. Nicholas Senn, of Milwaukee, Wis. Discussion: Dr. Lewis A. Stimson, of New York, Dr. John Ashhurst, Jr., of Philadelphia, Pa., Dr. Frederick E. Lange, of New York, Dr. A. G. Gerster, of New York, Dr. A. T. Cabot, of Boston, Mass., Dr. D. D. Bramble, of Cincinnati, O. 8. Treatment of Fractures Involving the Elbow-joint," by Dr. Lewis A. Stimson, of New York. Discussion: Mr. Arthur Edward Durham, of London, England, Dr. D. Hayes Agnew, of Philadelphia, Pa., Dr. N. P. Dandridge, of Cincinnati. O., Dr. R. A. Kinloch, of Charleston, S. C., Dr. D. W. Yandell, of Louisville, Ky., Dr. Stephen Smith, of New York City, Dr. E. M. Moore, of Rochester, N. Y., Dr. James McCann, of Pittsburg, Pa.

In addition to the above the following papers are offered and will be read as opportunity offers at the end of each day's programme: "Fractures Involving Upper Third of Femur, Exclusive of Neck," by Dr. Oscar H. Allis, of Philadelphia, Pa.; "Thoracic Surgery," by Dr. De Forest Willard, of Philadelphia, Pa.; "A Case of Diffuse Hypertrophy of the Breasts, with Photographs," by Dr. C. B. Porter, of Boston, Mass.; "Fractures of the Bones which Form the Elbow-joint and Their Treatment," by Dr. Levi C. Lane, of San Francisco, Cal.; "Old Unreduced Luxations of Elbow," by Dr. Lewis A. Stimson, of New York; "The Study of a Case of Hemiplegia with Aphasia, Following Ligature of Common Carotid Artery," by Dr. J. Ewing Mears, of Philadelphia, Pa.; "Investigation of Pistol-shot Wounds of the Skull, and their Treatment," by Dr. E. H. Bradford, Boston, Mass.; "The Result of Some Experiments in the Filling of Cavities in Bones Following Operations for Caries," by Dr. E. H. Bradford, Boston, Mass.

Liebreich's Cantharidin.—In a letter to the *University Medical Magazine*, Dr. Walter F. Atlee, of Philadelphia, after alluding to the well-known fact that lanolin is nothing new, having been familiar to Pliny, remarks that the same ancient author spoke of various preparations of cantharis being used for the same purpose for which Dr. Liebreich has brought his cantharidin forward. Dr. Atlee conjectures that we may soon hear of ovin, inasmuch as Pliny extolled the efficacy of eggs in erysipelas, burns, and pimples.

Typhoid Fever is prevailing to an unusual extent in Newark, N. J., as many as eight and ten new cases of the disease being reported to the Health Board every day. The city's water supply has been the subject of many complaints for some time past.

A Supporter of the New Code a Trustee of the American Medical Association.—The three new members of the Board of Trustees elected at Chicago were Dr. William Warren Potter, of Buffalo, N. Y.; Dr. W. W. Dawson, of Cincinnati; and Dr. John H. Rauch, of Chicago. A silly but futile effort was made to prevent Dr. Potter serving as a member of the Board of Trustees, the charge being made that he was ineligible on account of his membership in the New York State Medical Society, the Society which modified the Code a few years ago; but inasmuch as Dr. Potter has been for sixteen years a member of the American Medical Association, with dues constantly paid up, was last year elected President of the Gynecological Section, and has had a paper to read before the Association every year for a good many years, and is a member in good standing of the Erie County Medical Society, a splendid Society and one directly in line with the American Medical Association, the charge of being unethical could not stand.—*Medical Mirror.*

A New Disease of Americans.—According to Dr. Lange, perityphlitis, or appendicitis, is unusually common in America, and particularly in New York, one surgeon, for example, having encountered twenty-one cases in a period of eleven months. This Dr. Lange attributes to two of our national failings, that of eating too much and chewing too little, the result of which is constipation. Contributory causes of the prevalent constipation are our hurrying, restless, nerve-straining lives, which lead us to ignore the demands of nature. Fecal accumulation sets up trouble in the mucous membrane of the cæcum. So-called fecal calculi are often found, but very rarely—much more rarely than was formerly believed—foreign bodies, as causes of appendicular disease. The presence of pent-up secretions in the appendix is prone to set up an inflammatory condition, and this may pursue its course without destroying the integrity of the appendicular wall, or it may lead to extra-cæcal suppuration, which is almost always situated within the peritoneum, rarely between the layers of the meso-colon, and almost invariably accompanied with perforation of the appendix.

Reviews and Notices of Books.

TEXT-BOOK OF BACTERIOLOGY. By CARL FRAENKEL, M.D., Professor of Hygiene, University of Königsberg. Third edition, translated and edited by J. H. LINSLEY, M.D., Professor of Pathology and Bacteriology, Medical Department of the University of Vermont; Demonstrator of Pathology and Bacteriology, New York Post-Graduate Medical School and Hospital, Pathologist to the New York Post-Graduate Hospital and the New York Infant Asylum. Pp. 376. New York: William Wood & Co.

THIS book will receive, and deserves, a warm welcome, not only for its intrinsic merit, but because it supplies a decided want in English medical literature. Heretofore there has been no English text-book on bacteriology; now we have what is probably the very best published. It not only takes a first rank in Germany, but has been translated and published in six different languages. The author in his preface "does not claim complete, or exhaustive, discussion of the subject, and presents no statements from literature; only such facts and observations have been given as were examined by myself." A careful reading almost disproves this statement, as the book is remarkably complete for one of its scope. It is all a beginner could desire, and is a perfect manual for the most advanced bacteriologist. The first chapter is devoted to a classification and description of bacteria. It is excellent in every particular. The two succeeding chapters are the most valuable in the book, relating as they do to "Methods of Investigation," and "Methods of Breeding." The former includes the preparation of stains, and the details of all methods of staining. The directions are clear and simple, and no one following them need have failure. In the chapter on breeding, the author tells how to prepare the various culture media, and, what is still more valuable, how to properly use them. The remainder of the book is devoted to the description of the various kinds of bacteria, both pathogenic and non-pathogenic, investigation of air, soil, and water, and mold, and yeast fungi. The author is a devoted follower of Dr. Koch, and the latter's teachings are seen on every page. The translation is an excellent one, Dr. Linsley's English being clear and forcible. The lecture style of the original is changed very advantageously into the ordinary form; the first edition of the English version will doubtless have a ready sale, and it is to be hoped that in succeeding editions illustrations will be added.

MEDICAL PUBLICATIONS OF THE HARVARD MEDICAL SCHOOL. Vol. III.

THIS is a handsome book, containing eighteen articles by the Faculty of the Harvard Medical School, presented in this form to show the character of the original work done in the school. H. P. Bowditch contributes two excellent essays on the knee-jerk, and one on the physique of Massachusetts women. J. Armory Jeffries gives the results of his experiments with the sterilization of milk and food for infants, and also on the anti-bacterial action of iodoform. Thomas Dwight writes on the sternum as an index of sex, height, and age, and on the closure of the cranial sutures as a sign of age. There are other equally valuable papers by Drs. Bullard, Brackett, Lovett, Luce, Bryant, Hooper, Pease, Ernst, and Warren.

EXPERIMENTAL INVESTIGATIONS BY THE STATE BOARD OF HEALTH OF MASSACHUSETTS. 1888–90. Illustrated. Pp. 910. Boston: Wright & Potter Printing Co.

THIS is Part II. of the Report on Water Supply and Sewage, and its contents are as follows: "Purification of Sewage by Filtration and by Chemical Precipitation," by HIRAM F. MILLS, A.M., C.E.; "A Report of the Chemical Work of the Lawrence Experiment Station, Including Methods of Analysis, and some Investigations of the Process of Nitrification," by THOMAS M. DROWN, M.D., and ALLEN HAZEN; "Report of Experiments upon the Chemical Precipitation of Sewage," by ALLEN HAZEN; "Report of the Biological Work of the Lawrence Experiment Station," by WILLIAM T. SEDGWICK, Ph.D.; "Investigations upon Nitrification and the Nitrifying Organism," by E. O. JORDAN and ELLEN H. RICHARDS. There are twenty excellent diagrams and plates.

TRANSACTIONS OF THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION. Vol. III. Third session, held at Atlanta, Ga., November 11, 12, and 13, 1890. Pp. 444. Published by the Association.

THE Southern Surgical and Gynecological Association is doing a great work in the South. It is but three years old, but in that short time its membership has reached one hundred, and includes some of the most distinguished and learned men in the profession. The meetings are well attended, and not only tend to elevate the profession in the South, but have a marked influence on the entire profession. The papers are always of unusual excellence, and those in the work under review are no exception to the rule. There are thirty-two of them, relating to all the subjects that are most prominently before surgeons and gynecologists. They make up a book that is of value to every professional man. It is handsomely bound in cloth with gilt top. The Secretary, Dr. W. E. B. Davis, of Birmingham, Ala., deserves credit for the excellent manner in which he has compiled and published the book.

"JOE BROWN," DOCTOR, ON ALCOHOLISM, ITS CAUSE AND CURE. Pp. 105. New York: E. Scott, Publisher.

THIS is an excellent and very readable little monograph, written by a doctor who not only became a victim of the alcoholic habit himself, but also had the opportunity of studying it in all its phases in a number of institutions devoted to the care of inebriates. The book is handsomely bound in buff leatherette with gilt top. It is adapted to the general as well as the professional reader.

WOOD'S MEDICAL AND SURGICAL MONOGRAPHS. Vol. IX., No. 1, July, 1891. Contents: "Hay Fever and Paroxysmal Sneezing," by SIR MORELL MACKENZIE, M.D. "Tuberculosis of the Bones and Joints," by DR. FEDOR KRAUSE. "A Study of Malignant Disease of the Upper Air-Tract," by FRANCKE H. BOSWORTH, M.D.

THE first of the three monographs, that on "Hay Fever," by Sir Morell Mackenzie, appears at an opportune time, when the sufferers from this most trying of affections are appealing once more to their medical advisers and then, for the most part, despairingly leaving them and seeking relief, though not cure, in the mountains. The essay is complete and written in the author's most pleasing style. Dr. Krause's essay contains much of original pathological work on joint tuberculosis, and a careful consideration of all that bears upon it, which has been so fully written in German and so scantily in English. The paper is illustrated by forty-three cuts, and several lithographic plates. Dr. Bosworth's short paper, which closes this number, is an excellent presentation of a subject of much interest, concerning which not a very great deal has been written.

The Climate of Western Washington.—An observer at Port Blakely, Wash., reports that the hottest day in that place, in a period of fourteen years, was June 6, 1878, when the temperature record was as follows: morning, 62°; noon, 94°; evening, 73°. Since then on only three has a record of 92° been made. The lowest temperature days recorded was on the morning of January 15, 1888, 3° above zero, the next lowest being on February 11, 1884, 7° above zero. There has not been sufficient frost in the fourteen years to destroy potatoes left in the ground where they grew.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENERAL MEDICINE.

Stated Meeting, May 19, 1891.

FRANCIS DELAFIELD, M.D., CHAIRMAN.

Pulmonary Syphilis in the Adult.—DR. THOMAS E. SATTERTHWAITE read a paper on this subject. His reason for presenting the subject at the present time, he said, was because he had some personal experience which he thought would contribute toward the solution of this vexed question. That there were two sides to it was very evident, since many authorities, past and present, did not believe in the existence of pulmonary syphilis at all. Furthermore, he was confident that the majority of general practitioners to-day would affirm that they had never met with this affection. Laënnec and Andral made no allusion to it, and Hunter, Ricord, Bayle, Fagge, and other standard authorities denied its existence or expressed their doubt in regard to it. The negative side had also derived at times strength from pathologists. Thus, Virchow in his early career found himself at a loss for criteria in distinguishing pulmonary tuberculosis from syphilitic phthisis, and Ziegler, in his recent work (1887), followed in the wake of these early views. But neither of these men would be willing to affirm that syphilis of the lungs does not exist; but rather that there were at present grave difficulties in the way of a positive diagnosis from post mortem appearances.

The difficulties were undoubtedly great, but whether they were insurmountable or not was the question to be determined. In support of the positive position on this matter, it might be said, first, that the greatest of all the early pathologists, Morgagni, described lung syphilis in his epistles (1806), intimating that Valsalva was the real discoverer of the disease, about one hundred years earlier. The next decided step in advance was made when De Paul, in 1837, described a peculiar fibroid induration of the lungs in the congenital syphilis of infants. Following out this same line of observation, he found a somewhat similar condition in two adult patients, where the lungs, on post-mortem examination, were seen to have "purulent foci-bronci-ectasis and purulent infiltrations." From this time on the French observers, and notably Lagneau (1851), did much to solve the question before us.

Mode of Action of Syphilis upon the Lungs.—From an analysis of fifty-three cases the latter found that the syphilis might act on the lungs and bronchi in two ways, as follows:

1st. By producing changes essentially syphilitic in their character and divisible into two classes:

1. Affections which are generally slight, consisting of acute inflammation of the bronchi and parenchyma of the lungs, extensive inflammation of the bronchi, asthma, and chronic inflammation of the bronchi.

2. Serious affections which are described by most authors under the head of phthisis, comprising ulcerous chronic inflammation of the parenchyma of the lungs and the lymphatic ganglia, inflammation of the pleura, and syphilitic tubercle (miliary or gummy deposits).

2d. By aggravating and hastening the development of pre-existing disposition to tubercle.

In England Munk followed De Paul, giving a satisfactory review of the subject; but it was reserved for Stokes (1844) to furnish us with certain definite clinical signs. In describing a case of supposed phthisis he said: "See whether there is any syphilitic taint, and if so, examine for periostitis of the chest." He observed that secondary syphilis resembled phthisis, and exhibited a peculiar bronchial irritation; furthermore, that with a large amount of pulmonary tissue involved, the clinical signs were comparatively few. Graves, following in 1848, upheld these views, and based his diagnosis on the success of anti-syphilitic remedies when the patient had the physical signs of (tubercular) phthisis.

In 1852 Weber described the pathological aspect of the consolidated lung under the term "white hepatization," a phrase that later led to the name "white pneumonia," by which the fibroid lung of syphilis was now known among pathologists. To the practised eye there was something fairly distinctive in this white pneumonia; so that one could almost see at a glance, on post mortem examination, that we had a syphilitic lung. It was best seen in the earliest or middle stages of infiltration.

Diagnosis of Pulmonary Syphilis.—Having alluded to other German writers and to Moxon's analysis of cases in the "Guy's Hospital Reports" for 1868, Dr. Satterthwaite said that Walshe, in his well-known work on diseases of the lungs (1871), expressed the opinion that the diagnosis could be made in pulmonary syphilis, by noting the disproportion between the physical signs and the severity of the malady; by a unilateral bronchitis, by either the slight character of the night-sweats or their absence; and by the result of specific remedies. In 1877 Greenfield mentioned among the clinical signs a decided tendency to profuse hæmoptysis, which he attributed to the great vascularity of the new connective tissue. Such an explanation would, of course, only apply to the formative stage of the fibroid induration of the lungs.

In this country we had had excellent matter from Van Buren and Hayes, Bumstead and Taylor, Hyde and Bruen; while Porter had laid down rules for positive diagnosis which had attracted general attention. The latter laid stress on the following physical signs: Dyspnœa on inspiration, a varying degree of supra- and subclavicular retraction; on percussion, marked dulness over the affected parts; on auscultation, prolonged and high-pitched inspiratory murmur, with a decided interruption or pause between it and the expiratory murmur, which is prolonged and high pitched. The pitch is higher in inspiration and expiration than in emphysema. There is almost total absence of sibilant or sonorous râles, also of the crepitant and subcrepitant; and very pronounced vocal fremitus on counting. He regarded this peculiar respiration without râles, with abundant sputum, together with a marked tenderness over the sternum, as almost pathognomonic of pulmonary syphilis. Dr. Porter, as almost all writers, limited their points of differential diagnosis to the condition of fibroid induration where there were no appreciable cavities. Such a case, from the practice of Dr. Zeh, he had seen quite recently with Dr. Porter. The diagnosis of syphilitic phthisis, made before death, was strengthened at post-mortem examination by the general signs of visceral syphilis in the lungs and liver; while a subsequent microscopic examination of the diseased lung-tissue failed to disclose any tubercle bacilli.

Pathology.—Dr. Satterthwaite then went on to speak more particularly of the pathological evidence supporting the theory of syphilitic phthisis.

1. He said we often found in the lung a peculiar tumor known as "the gummy," small, yellowish in color, sticky to the feel, and sharply defined from the surrounding tissue. It was a recognized lesion of tertiary syphilis, forming one of the most common deposits in the liver or kidneys, and was more prominent in the middle or lower lobes of the lungs than elsewhere.

2. In another class of cases we had appearances simulating those of miliary tuberculosis, but without the so-called tuberculous bacilli.

3. In another class we had the peculiar fibroid induration previously mentioned. It was presumably an advanced stage of the miliary formation, and was the most characteristic of the syphilitic lesions. At first the indurated fibrous tissue had a pellucid bluish appearance, but later on was white and glistening.

4. If the miliary deposits aggregated and softened (as would be the case if the treatment were unsuccessful)

cavities, which were usually small, would form, and be found first in the apices, just as in tubercular phthisis.

5. Associated with these intra-pulmonary changes there was an unusual amount of fibrous pleurisy, and pleuritic effusions were also comparatively frequent.

While there were none of these lesions, except the gummy tumor, that were positively determinable at the post-mortem table, yet, in conjunction with the patient's history, the physical signs, and the microscopic examination of the sputum or of lung-tissue after death, the diagnosis might be made with a remarkable degree of certainty.

There was no doubt that lung syphilis was comparatively uncommon, and Dr. Satterthwaite's observations in the main agreed with those of Greenfield and Goodhart on this point. In 95 patients that came to the post-mortem table with supposed tubercular phthisis, 12 had evidences of syphilis in their lungs (thirteen per cent.). Of these 12 cases, 6 were selected as pure examples of syphilitic phthisis (six per cent.). In the remaining 6 cases it was possible, and indeed probable, that tubercular phthisis was a concurrent lesion (six per cent.). Hence, it would appear that syphilis of the lungs was quite as often associated with tubercular phthisis as that it was the single lesion. Having given the statistics of his clinical records at the Post-Graduate School in reference to phthisis, constitutional syphilis, and lung syphilis, he proceeded to compare the two sets of phthisical cases (which happened to be exactly equal in number) together. Of the 95 phthisical cases that came to the post-mortem table in his hospital practice, 12 had lung syphilis, or 12.6 per cent., while of the 95 phthisical that came to his clinic, 14 were put down as having lung syphilis, or 14.7 per cent., a difference of only from two to three per cent.

That syphilis might play an important part in inherited phthisis he felt assured from personal experience at the bedside; but the exact relation between the two had yet to be established. It was apparent, however, that a man suffering from a severe form of progressive syphilis, and who became in consequence greatly deteriorated in health, was a fit subject for the development of tuberculosis if other conditions favored. In such persons the two diseases might develop side by side, each intensifying the other. Again, from a pathological point of view, in the early stages of both diseases there were the same catarrhal features, and in the further progress of the disease the same tendency to thickening and degeneration of vessels, implication of lymphatics, and the production (in certain types) of an imperfect form of fibroid tissue, much as in fibroid tuberculosis. As to the microscopic character of the tubercle, so good an observer as Goodhart failed to find any difference between them, and others had sustained this view.

Symptoms.—In pulmonary syphilis he had found rapid breathing and dyspnœa quite common; but it was notorious that we might not be able to detect the cause of the trouble either by auscultation or percussion, although, judging from post-mortem records, it was proper to suppose that a certain amount of deposit had taken place which the ear could not detect. Cough was an early symptom. Expectoration was slight at first, but in advanced cases copious. Hæmoptysis and night-sweats he believed to be uncommon. Even in advanced cases emaciation was infrequent, and this symptom contrasted strongly with fibroid tuberculosis. The temperature rarely exceeded 101° F., in this respect also contrasting strongly with tuberculous patients. When there was a wide dissemination of syphilitic tubercles, or when there were small, gummy tumors, auscultation and percussion might fail to reveal anything; but so soon as fibroid induration had commenced we would be likely to have the signs of beginning consolidation. It was generally supposed that syphilis elects by preference the middle and lower lobes of the lungs; and this was true of gummy tumors, but not of the miliary deposits, or of the induration. When the disease had advanced to the point where there were evidences of destructive changes, there was usually copious albuminuria and casts of all kinds, with uræmic symptoms. At this point, too, we were apt to have some suggestive signs of brain implications. Many of the criteria that had been given by writers for determining this disease related not to it, but to its concomitant lesions. Thus, nervous phenomena related to cerebral syphilitic lesions, and periostitis was simply a common manifestation of constitutional syphilis.

Treatment.—After some remarks in regard to the differential diagnosis, Dr. Satterthwaite said he was a firm believer that syphilis is a disease not only amenable to treatment in all stages, but capable of being arrested and held in check in almost all cases, at any time before destructive changes have taken place. As in tubercular phthisis, we could not restore a tissue that had become neurotic, but even then elimination of the morbid products and cicatrization were still possible. Hence, up to the stage of softening specific remedies, actively pushed, would act promptly and well. The paper concluded with the narration of the six cases of pure syphilis of the lungs referred to in which an autopsy was made.

Dr. Robert W. Taylor said, that when Dr. W. H. Porter read his paper some years ago, and he heard the views expressed by Drs. Delafield and Draper, he found himself in a state of considerable doubt and uncertainty on this subject. He therefore resolved to make a careful study of all cases coming within his knowledge that seemed to have any bearing on it. In this connection he would say that in an article by Lancereaux, published in the *Union Médicale* for January, 1891, that author took the ground that it is very difficult to distinguish, even with the microscope, between syphilis of the lungs and tuberculous disease, and that the two may go hand in hand together. He recognized two forms of pulmonary syphilis. In the first, there was a proliferation of connective tissue around the smaller blood-vessels, which later resulted in fibroid consolidation of the lung. In the second, the lesion consisted of a growing tumor.

Dr. Taylor said that he had seen cases in which pulmonary tuberculosis supervened upon syphilis. One very interesting case he had previously reported, where the patient, suffering from a severe papular syphilide, was supposed to have small-pox, and later developed tuberculosis and died. At the autopsy the physician making the examination became infected with syphilis from a cut; and this was one of the cases on record in which inoculation took place from a cadaver. He had gone over his records of cases to see what light they would throw on this subject of pulmonary syphilis, and would relate four of them by way of illustration. These cases he gave as follows:

Case I.—A gentleman, thirty-two years of age, in fine health, contracted syphilis early in 1888. He had general exanthemata and mucous lesions, and followed treatment for perhaps six months. He came to me in May, 1890, rather more than two years after infection, having an obstinate syphilitic psoriasis. At this time he was pale and thin, and complained of a slight hacking-cough and of pain on breathing over a patch having an area of three square inches on his side, over the middle lobe of the left lung. He expectorated a little mucus, mostly in the morning. Over the morbid area there was very slight dulness, and rough breathing could be heard. There was no elevation of temperature. He was put upon mixed treatment and syrup of iodide of iron. Within a month his pain ceased, he coughed less, and he gained strength. In July he weighed more than he ever did in his life, and felt correspondingly well. At this time there was no perceptible lung trouble.

Case II.—A gentleman, twenty-two years of age, syphilitic for eighteen months, but had taken no treatment until one year after infection. In May, 1890, he first noticed shortness of breath and a slight cough. Sputum not very copious, mucoid, a little fetid, and occasionally

streaked with blood. A physical examination showed dulness over the left side, about the middle of the lower lobe; its area being the size of a lemon. During inspiration, large and small râles were heard. He was thin, pale, and sallow, and very weak. Under the mixed treatment and iodide of iron he was seemingly entirely cured in July of the same year. Promptly after the beginning of the treatment he began to feel better, and quite rapidly his nutrition became improved; so that he regained his color and flesh. In July, Dr. Taylor could not find any abnormalities in the lung. There was at no time any elevation of temperature, though in May the pulse was thin and rapid.

CASE III.—A married woman, aged thirty-eight, a blonde of poor fibre, infected with syphilis in October, 1886, came to Charity Hospital in 1887, giving a history of mucous patches in the mouth and vulva, syphilitic rheumatism, and a great falling away in flesh and strength. She was treated energetically, but remained in the hospital only one month. In July, 1887, she came back with diffuse gummatous infiltrations in the fingers, and over the body. She was patched up again, and as soon as her lesions healed she went out. In November of the same year she came back again with the following story, and the following condition: For a month previously she had had a slight cough, was a little short of breath upon exertion, and noticed that she was more readily fatigued than before. She had not followed the directions given her on leaving the hospital in July, to keep on with medicine, and get all the fresh air she could. Being a dressmaker, and the mother of children, she had had to apply herself to the needle for long hours each day. In this state, and under such conditions, she had been taken, two weeks before coming in, early one morning, with an alarming hemorrhage (the blood being very dark and thick), which continued free for about an hour, and then kept up in a mild degree all the day. Her general symptoms became worse, and she had three other hemorrhages of less severity before her admission to the hospital.

Examination showed very slight elevation of temperature (this being more marked in the evening than in the morning), and general prostration. Over the upper lobe of the left lung, extending three inches down from the clavicle and all the way across the chest, there was marked dulness on percussion, and on auscultation there was heard a whistling noise, mixed with moist râles. Everywhere else the lungs were normal. The woman was put on extra diet, sent out daily in the warm part of the day, was given the strong mixed treatment, the chest being rubbed every evening with twenty grains of strong mercurial ointment, and was sent home with no appreciable trouble in her lungs, and in a fair state as to flesh and strength, in the middle of January, 1888.

CASE IV.—In August, 1890, Dr. Taylor was asked to see in consultation a man twenty-five years of age, thin, pallid, and wan, who had been affected with syphilis in June of that year. He had at the date of examination double syphilitic hydro-arthritis of the knee-joints. He had been treated with mercury, but had borne it badly. In September he had inflammation of the left ankle-joint, and complained of weakness, night-sweats, and great dyspnœa. In spite of the best care, he became rapidly worse, and in November there was evidence of diffuse infiltration in both lungs. He continued to fail very fast, and died early in December.

From a study of these and other cases, Dr. Taylor said that he had arrived at the following conclusions:

1. That syphilis predisposes to tuberculosis; and 2, that there are certain clinical manifestations which depend on the morbid changes that are produced in the lungs by syphilis.

DR. SATTERTHWAITE then read a letter in regard to pulmonary syphilis which he had received from Professor William H. Welch, of the Johns Hopkins University, Baltimore.

DR. WELCH thought that the subject of syphilitic lesions in the lung was still in a state of confusion, and was not very likely to be thoroughly cleared up before we possessed, by the detection of the specific germ of syphilis, as positive a means of recognition of syphilitic lesions as we had in the tubercle bacillus for tuberculosis. Unquestionably, a large proportion of the cases of pulmonary syphilis reported in the adult had been cases of tuberculosis. Some writers seemed to suppose that by demonstrating the existence of syphilis in the patient they had brought sufficient evidence that the coincident pulmonary disease was of a syphilitic nature. Neither the existence of syphilitic infection nor improvement or cure of the pulmonary affection by antisyphilitic treatment seemed to him satisfactory proof that the alteration in the lung was syphilitic. In the present unsettled state of the question a case reported clinically, without any post-mortem examination, was valueless as to the establishment of specific pulmonary syphilitic lesion. It was curious to find that even in recent years cases had been reported as syphilis of the lung on the basis of the clinical history, even without examination of the sputum for tubercle bacilli, as well as on the basis of post-mortem examination without search for the tubercle bacilli.

The specific alterations in the lungs in cases of congenital syphilis, chiefly of still-born infants, had long been recognized and their characters were understood. As regards acquired syphilis, there were two forms of pulmonary disease which he had met with and which he thought were syphilitic. One was a form of chronic interstitial pneumonia, beginning usually at the root of the lung and extending along the bronchi and blood-vessels; and the other was the formation of genuine gummata. As to the latter, it had been shown that they might develop as circumscribed syphilitic pneumonias. Although the lesions mentioned were, of course, accompanied with destruction of the pulmonary parenchyma, he knew nothing of the occurrence, from genuine syphilitic lesions, of such destruction of tissue and formation of cavities as we are accustomed to call phthisis. Cavities were indeed found in pulmonary syphilis, but they were always small. In this sense there did not seem to him to have been as yet brought forward sufficient evidence to prove the existence of such a disease as syphilitic phthisis.

DR. LEONARD WEBER said that he found himself in accord with Drs. Satterthwaite and Taylor on this subject. In many cases we had undoubtedly a mixed affection, and it stood to reason that a chronic disease like syphilis, in the course of its long history, would often become associated with other diseases. In many patients who had died of phthisis he had found at the autopsy evidences of syphilis in the other organs. After the publication of Fournier's views, however, the tendency had no doubt been to attribute entirely too many cases of pulmonary disease to syphilis. He desired on this occasion especially to call attention to two very interesting cases of syphilitic disease of the bronchi which it had been his privilege to have under observation. One of the patients died, but the other had recovered. The first was a gentleman thirty-three years of age, who suffered greatly from dyspnœa, and had a syphilitic history. A careful examination of the fauces, larynx, and trachea (as far as possible) revealed considerable disease of the bronchial mucous membrane, with thickening, but not ulceration. The treatment, which was partly a mixed one and partly one of plain iodide of potassium, had a remarkable effect in overcoming the attacks of dyspnœa. The patient afterward died of some intercurrent affection, but whether this was of syphilitic origin or not, he had not been able to ascertain. In this case there was, no doubt, a fibroid contraction of the trachea and bronchial tubes as a result of syphilis.

The second was that of a woman twenty-two years of age, a prostitute, who had become infected with syphilis at least six or seven years before, and the characteristic syphilitic perforation of the soft palate. The symptoms,

though not so severe, were very similar to those observed in the other case, and, as in that instance, yielded very satisfactorily to antisyphilitic treatment. The patient had now been lost sight of for some time, though he had no doubt that she was still alive.

DR. W. H. PORTER said that he had tried very hard to secure some positive evidence of the engrafting of tuberculosis on phthisis, but he had never yet succeeded in accomplishing it. He could not see any reason, however, why this should not take place. Post mortem, the diagnosis of syphilis in any case was to be based chiefly on certain changes in the blood-vessels and the absence of tubercle bacilli.

DR. TAYLOR said that there was one point which he had neglected to refer to directly, although it could be incidentally inferred from some of the cases which he had narrated. In pulmonary syphilis the correctness of the diagnosis could often be established by the results of treatment. We not infrequently heard of patients being cured of asthma by iodide of potassium, and when this was the case he had no doubt whatever that the asthmatic trouble was of syphilitic origin.

In closing the discussion, DR. SATTERTHWAITE said that he had expected that an earnest advocate of the other side of the question would be present on this occasion to dispute the conclusions which he had given in his paper, but the gentleman had not appeared. It seemed to him that sufficient evidence had been produced to show that there unquestionably was such an affection as pulmonary syphilis; and this evidence was cumulative. In regard to the pathological changes, we not infrequently found miliary gummy deposits in the lung associated with the characteristic syphilitic cirrhosis of the liver. Such cirrhosis of the liver was peculiar, and very different from alcoholic cirrhosis. Then we had periostitis, and, finally, the clinical history. One peculiar feature was the albuminuria, which was much more common than in tuberculosis. In addition, we had all these signs without any history of tuberculosis.

He then spoke of the peculiar hyaline degeneration of the vessels met with in pulmonary syphilis, and referred again to the case of Dr. Zeh, mentioned in the paper, in which an autopsy was made, where the lesions closely resembled those of tuberculosis, but which were undoubtedly purely syphilitic. Specimens of the lung-tissue were sent to every laboratory in the city, and the reply was made in every instance that absolutely no tubercle bacilli could be found; although some of the microscopists expressed their conviction that the case was nevertheless one of tubercular phthisis.

In reference to Professor Welch's views, he agreed with him that in pure syphilis of the lung the cavities are always small. He regretted that he had had only six cases of his own confirmed by autopsy, but in these the evidence was entirely conclusive. In regard to Dr. Porter's statement that tuberculosis was not apt to be engrafted on syphilis, he said that he had seen cases where syphilis was undoubtedly engrafted on tuberculosis. His experience went to show that in about fifty per cent. of all cases we found tuberculosis together with syphilis. On the whole, however, it must be admitted, as shown by statistics, that syphilis of the lung was comparatively rare.

He was quite willing to admit that there were two views of this question, and that there were good authorities on both sides of it. In his paper he had endeavored to do justice to both. While pulmonary syphilis was comparatively rare, he was convinced that some of the cases entirely escaped notice, being mistaken for bronchitis, broncho-pheumonia, or ordinary tuberculosis. One of the peculiarities of such disease was that while the physical signs were often well marked, the constitutional symptoms were exceedingly slight; there being but little increase of temperature, and the patient's appetite and general health remaining fairly good as well. This was an important point in the diagnosis; as was also the fact of relief secured by the administration of anti syphilitic remedies.

DR. H. N. HEINEMANN then read a paper on "Prognosis in Various Forms of Organic Disease of the Heart."

THE BRITISH MEDICAL ASSOCIATION.

Fifty-ninth Annual Meeting, held at Bournemouth, July 28, 29, 30, and 31, 1891.

(From our Special Correspondent.)

(Continued from page 221.)

SECTION OF OBSTETRIC MEDICINE AND GYNECOLOGY.

FIRST DAY, WEDNESDAY, JULY 29TH.

THE PRESIDENT, DR. SMYLY, gave an address in which he urged the importance of not dividing the Section, as some of his predecessors in the chair had proposed, and by means of illustrative cases showed the extreme difficulty, or, in his opinion, impossibility of always distinguishing between the work of the obstetrician and that of the gynecologist. He pointed out the advantages of lying-in-hospitals for teaching purposes, and the great importance of having a gynecological department attached.

Puerperal Fever.—Dr. Smyly then toook up this subject, expressing his strong belief in Semelweiss's theories as to the causation of puerperal fever and gave an account of a septic outbreak which occurred in the Rotunda Hospital. When he was appointed to the Rotunda, in September, 1889, there had been no case of septicæmia in two thousand deliveries. A patient for whom artificial labor had been induced then became septic and soon afterward other cases exhibited septic symptoms. The practice up to this time had been to limit vaginal examination of each patient to three students. Previous to examination the genitals were washed with soap and water, then irrigated first with plain water and afterward with corrosive sublimate solution (1 in 500), the hands of the examiner were also carefully cleaned and washed in the sublimate solution. Vaginal douches after labor were employed only in special cases, and not as a routine proceeding, and plain water alone was used.

After the occurrence of these septic cases all vaginal examination was discontinued and it was found possible to ascertain the presentation satisfactorily by abdominal palpation alone; the condition of the os, of course, could not be ascertained. The septic outbreak now ceased, but on the resumption of vaginal examination again recurred and again ceased when it was discontinued, but this time it recurred while vaginal examinations were not being practised, without any ascertainable cause. The patients up to this time had been accustomed to bathe themselves, but this practice was now stopped and the nurse was directed to do the cleansing, using corrosive sublimate, each patient being kept strictly to the same basin. The septic outbreak then finally subsided and there have since been one thousand deliveries without any sign of septicæmia.

Puerperal Eclampsia.—DR. GALABIN opened the discussion on this subject, drawing attention first to the principal points to be discussed, which in his opinion were: 1, The causation of the albuminuria; 2, the relation of the albuminuria to the convulsions; 3, cases where the albuminuria follows the convulsions; 4, cases where albuminuria is absent.

Albuminuria was often present without producing convulsions, as had been proved by French observers, and as was shown at Guy's Hospital Maternity, where two per cent. of the women had albuminuria, but not convulsions. Women with chronic Bright's disease who become pregnant do not usually suffer from eclampsia. Dr. Galabin considered that the old explanation that the convulsions were due to uræmia was the most reasonable, and that the convulsions were more common in puer-

peral than in non-puerperal nephritis, because of the increased nervous excitability, as was shown by the fact that the fits often occurred with each pain. The convulsions may, in some cases, be due to pre albuminuric nephritis, a condition which has been distinctly recognized in some forms of Bright's disease.

It has been supposed by some observers that the eclampsia and the albuminuria are both due to a common cause, possibly of a microbic nature. A bacillus is reported to have been isolated which produces convulsions when inoculated in pregnant rabbits, but which has no effect on those that are not pregnant.

As to treatment, the speaker said that heroic measures were usually reserved for more severe cases, so that statistics with regard to them were fallacious. The mortality of untreated cases has been stated by Auvard to be twenty-five per cent. Blood letting to the extent of forty ounces or more will stop the convulsions when other means fail, but this treatment renders the patient more liable to subsequent complications, and the evils of its indiscriminate use are shown by the fact that the mortality at Guy's when blood-letting was in vogue was thirty per cent., and since then twenty five per cent.

There are two distinct principles of applying venesection: 1, Abstracting a moderate amount to relieve congestion; 2, abstracting a large amount to stop convulsions

As minor measures, Dr. Galabin approved of diaphoretics (hot baths for an hour at a time, followed by hot wet packing), but did not find pilocarpin reliable.

Dr. Byers considered the view that had been held by some, that the albuminuria was due to the fits, was disproved by the fact that albuminuria seldom complicated epilepsy. He narrated a case of a woman who had been pregnant four times, having blood and albumin in the urine each time, but had had no convulsions. He thought that no one explanation would do for all cases, but that there may be several poisons, each producing convulsions. The condition of the fœtus has some effect on the causation, eclampsia being more common in cases of twins.

The speaker said that he believed in milk diet and baths as prophylactics, and when the fits came on he administered chloroform. He had seen serious collapse follow the administration of pilocarpin.

Dr. Auvard thought eclampsia was caused by general deficient elimination by other organs as well as the kidneys. He would treat cases by jalap, digitalis, milk diet, free imbibition of water to flush the kidneys, and diaphoretics. To stop fits he administered chloroform and chloral, employed venesection in plethoric patients, and always emptied the uterus as soon as possible.

Dr. Lawrence thought that no perfectly healthy woman ever had eclampsia. He always insisted on examining the urine of patients whom he was about to attend in their confinements. The treatment he used was the following: Preventive—milk diet, purgatives, and diuretics; when convulsions occur—venesection in certain cases, and delivery. This stops the convulsions, but does not always save the patient. He put the patient at once under chloroform, and then delivered as soon as possible. He said that he had found veratrum viride a good substitute for bleeding in some cases.

Dr. Edis urged the importance, when fits came on, of at once putting the patient under chloroform and injecting chloral per rectum. He advocated also a good dose of morphia, which was not dangerous.

Dr. Swayne gave a record of 36 cases, in 24 of which venesection had been practised and had proved beneficial in 18, being speedily followed by a diminution in the amount of albumin. He thought chloroform and chloral better than opium, and regarded venesection and anæsthetics as the two most important remedies, and after them would place the hastening of delivery. Venesection had gone into disuse partly because of the prejudice against it in the public mind.

Dr. Bell considered general hyperæmia a cause. He did not agree with the statement of a previous speaker that perfectly healthy women were never attacked.

Dr. Godson maintained that when a woman advanced in pregnancy had swelling of hands and feet, if the child was viable, labor should be induced. He narrated a case in which an apparently healthy girl had swelling come on at the seventh month with considerable albumin in the urine. He did not induce labor and convulsions came on at labor, the patient dying. In another similar case he induced labor at the sixth month and mother and child both lived.

The discussion was continued by Drs. Wallace, Macdonald, Heywood Smith, Hanley, and Murdoch Cameron.

Porro's Operation.—Dr. Clement Godson reported two cases of Porro's operation. The first case was a primipara, who at the time of operation was suffering from peritonitis, the result of prolonged labor. She was admitted to St. Bartholomew's Hospital, forty-eight hours after the commencement of labor and thirty six hours after rupture of the membranes. The conjugate diameter was two inches. The uterus was exposed and a small incision made through its wall and the opening enlarged by transverse tearing. The pedicle was fixed by one long pin and serrenœud. The fœtus weighed seven pounds. The wound was dressed under spray. The patient died on the second day. The pelvis was removed and its conjugate diameter when dried was two and one-quarter inches. In the second case the conjugate diameter was two inches. The patient was removed to hospital and operated on about twenty-one hours after labor had begun. The child weighed seven and one-quarter pounds. The mother and child left the hospital in three weeks.

In such cases one had to select between Porro's operation and the Sanger Cæsarean. The advantage of Porro was that sterility was ensured, but the same result could be obtained in Cæsarean section by tying the tubes. The Porro was more simple for the general practitioner to do. The difficulty in passing the elastic tube over the fundus might be overcome by threading a wire through it first. He thought every practitioner should be able to do Porro's operation.

Dr. James Murphy then reported two cases of amputation of the uterus during labor, one of which was a woman with cancer of the uterus, who had been in labor three days, the cervix being obstructed by a mass of cancer. The fœtus appearing to be dead the uterus was removed entire. The patient died the next day. The second case was successful.

A discussion followed on the report of these four cases in which Dr. Leith Napier said he had just done a successful Sanger Cæsarean operation. The patient had an attack of influenza after the operation, but recovered. He had previously performed embryulcia on the same patient, and did this operation on the two hundred and eightieth day from the commencement of pregnancy, not waiting for labor to come on.

Dr. Heywood Smith believed that Porro's operation was the better one, and thought that at some future time we might find it possible to treat the stump of a Porro intraperitoneally.

Dr. Murdoch Cameron said that he would not operate on a case before labor had begun, as the dilatation of the os ensured natural drainage. He prepared his ligatures with rectified spirit and carbolic acid. He thought a long incision in the uterine wall was bad. If he found that the incision cut down on the placenta, he put in his fingers and tore the uterine wall and placenta together. He commenced to put in the sutures at the middle of the wound, and endeavored to get contraction of the uterus by pressure before closing the sutures. Gave hot water only, one drachm every fifteen minutes for the first twenty four hours, then small quantities of milk and water.

Dr. M. Handfield Jones narrated cases where obstruction to labor was caused by a fibroid and pointed

out that in such cases Porro was the only operation suitable.

THE PRESIDENT said he preferred Cæsarean section, but there were certain cases in which Porro was necessary, namely in rupture, septic condition of the uterus, and fibroid tumors. He thought it was not right to make the patient sterile unless her consent had been obtained.

DR. GODSON, in reply, thought there was no disadvantage in operating before the onset of labor, at all events when a Porro was done.

Tubal Pregnancy.—MR. ALBAN DORAN reported a case of tubal abortion with double hæmatosalpinx. The patient was twenty-seven years of age and had had attacks of pain for twelve months—a severe attack with collapse just before operation. A two-inch incision was made and the peritoneal cavity was found to be full of dark clot. The left tube was dilated and lacerated; the right tube uniformly distended, and it bled freely from fimbriated extremity. The patient recovered. Microscopical examination showed evidence of tubal gestation which was aborting into the peritoneal cavity. He thought the presence of blood in the other tube was accounted for by reflux from the uterine cavity.

DR. LAWRENCE also related a case of tubal pregnancy in which the patient had gone fourteen days over herperiod.

DR. CULLINGWORTH said he would place rupture of a varicose vein among the causes of hæmatosalpinx. He thought that the thinned-out condition of the wall of the tube was characteristic of tubal gestation, when examined after removal. He doubted whether blood ever regurgitated from the uterus into a tube.

SECOND DAY, THURSDAY, JULY 30TH.

Uterine Polypi.—DR. MURPHY opened a discussion on this subject. He defined a polypus as any tumor forming a prominence on the inner uterine wall, but excluded placental and malignant and discussed only mucous and fibroid polypi. The mucous polypi were rarely solitary. As bearing upon the etiology he drew attention to the fact that they never occurred in animals. The hemorrhage, symptomatic of uterine polypi usually began as an increase in the amount and duration of the menstrual flow; later it became irregular, coming on especially after exertion. The leucorrhœa was due to chronic endometritis. He did not believe that it was possible to diagnose an intra-uterine polypus by the use of the sound but considered it necessary to dilate the cervix and explore with the finger. When possible, removal of the tumors was desirable. The old method of strangulation by ligature had been abandoned. The écraseur was often useful but there was danger of including a portion of uterine wall in some cases. If the polypus were a large one and situated in the uterine wall he would prefer to treat it by Tait's method of removing the appendages rather than try enucleation.

DR. ROBERT BELL believed that fibroid polypi originated as organized blood-clot and were adventitious growths. The mucous polypi were always found in the cervix. In cases of hemorrhage he believes in curetting the interior of the uterus.

DR. MURDOCH CAMERON thought there was sometimes great difficulty of diagnosis from inversion in women with fat abdominal walls. He believed in enucleation in certain cases and also thought electricity did good.

DR. EDIS laid it down as an axiom that if there was persistent uterine hemorrhage with no ascertainable cause the cervix should be dilated and the uterus explored. He narrated a case where a large tumor in the vagina was diagnosed as cancer and the patient was treated for some time in the Cancer Hospital. She afterward came under his care and the tumor was found to be a sloughing fibroid and was removed. He preferred to dilate with laminaria tents followed by Barnes's bags. In several cases he had removed small fibroid polypi with the result of curing sterility which had previously existed.

DR. HEYWOOD SMITH did not believe that mucous polypi were limited to the cervix for he had seen them at the fundus uteri. In some cases one had to use the écraseur without first ascertaining the position of the cervix when the tumor was blocking up the vagina.

DR. LEITH NAPIER thought the most difficult cases were those with a small sessile intra-uterine polypus with great bleeding. He related a case where the ovaries had been removed but hemorrhage did not cease, the os was then dilated and a polypus found.

DR. LAWRENCE would limit discussion to polypi only. He believed in the écraseur. He would not enucleate large tumors growing in the substance of the cervix but would use Apostoli's treatment with puncture of the tumor.

DR. GODSON thought that severe dysmenorrhœa, worse on taking ergot, was sometimes a most prominent symptom.

MR. ALBAN DORAN urged the importance of looking for another fibroid after removing the first one. There may sometimes be an interstitial fibroid as well as a polypus. He questioned whether fibroid tumors ever arose from blood-clot.

DR. PURSLOW urged the importance of removing the whole of a sloughing fibroid at one operation and not leaving a portion to be removed subsequently, as had been done by one speaker.

DR. TRAVERS reported a case of rapidly recurring uterine polypus. A pedunculated fibroid filling the vagina and growing to the uterus was removed by the écraseur. The patient was admitted six months later with a sloughing fibroid attached to the same spot. This was removed and three months later a large sloughing mass the size of the fœtal head was removed by the écraseur and scoop. Six months later a small polypus was removed. Three months later flooding and discharge began again, and a soft mass growing from the same spot was removed by fragments. Sections of the tumors showed fibro-sarcomatous tissue.

DR. INGLIS PARSONS asked whether the tumor was sarcomatous from the beginning or had degenerated from a simple fibroid.

MR. ALBAN DORAN said the tumor was like what had been called a "malignant racemose tumor." In his opinion true malignant degeneration did take place in fibroids. The question of intra-uterine tumors was further discussed by Drs. Godson, Auvard, and Smyly.

The Medical Treatment of Cervical Metritis.—DR. AUVARD then read a paper on the treatment of this disease, which for convenience he divided into three stages. The third, or most severe stage, he treated by cauterization, scarification, and antiseptics. These methods of treatment were applied in the order mentioned. In slight cases, when the mucous membrane only was affected, cauterization was sufficient. For this purpose he condemned both nitrate of silver and the actual cautery, and preferred to inject into the diseased tissues by means of a hypodermic needle a mixture of equal parts of creasote, alcohol, and glycerine. In more severe cases this cauterization was followed by scarification, the latter serving to deplete, and also to evacuate the distended glands. The scarification was effected by a special three-bladed instrument. After scarification the surface was dusted over with powdered salol by means of an insufflator and covered by cotton wool.

In the discussion which followed MR. ALBAN DORAN urged the importance of limiting this treatment strictly to proper cases.

DR. HEYWOOD SMITH thought Dr. Auvard was wrong in using the cautery first. He had found tampons of glycerine valuable after scarification. He thought it hazardous to carry the instrument into the uterus.

DRS. TRAVERS and INGLIS PARSONS had used the Apostoli treatment in severe cases.

DR. BELL thought the endometrium of the fundus was affected and he would treat that.

DR. CULLINGWORTH thought we knew very little of endometritis, and deprecated vigorous treatment.

DR. WALLACE thought it was usually associated with hypertrophy and treated it by taking a slice out of one lip of the cervix, or incising in several direction with a probe-pointed bistoury, so as to evacuate the glands.

DR. CORDES showed an aseptic female catheter and an aseptic uterine irrigation tube. The principle of both these was the same, there being a metal or vulcanite rod grooved deeply on each surface. Over this a piece of rubber tubing could be slipped so that the grooves formed channels, the advantage being that the grooves could easily be cleaned and the rubber tube, if advisable, burnt and a fresh one used next time.

Treatment of Pelvic Suppuration.—DR. AUST LAWRENCE then read a paper on "Early Incision and Drainage in Cases of Pelvic Abscess." In many cases of pelvic abscess it was impossible to diagnose the exact seat of suppuration, and he deprecated too much vaginal examination as likely to rupture a collection of pus into the peritoneal cavity. In some cases these abscesses ran a favorable course, opening naturally; in other cases they went on a long time or burst into the peritoneum. He held that whenever an abscess was present an external opening should be made as soon as possible, not waiting for fluctuation. He would pass the aspirator needle into a suspicious part of the swelling, and if pus proved to be present he cut down along the needle. If no pus came he left a silver wire in the track of the needle, and the pus when it formed would find its way along the wire and then the sinus could be easily dilated.

DR. PURSLOW then reported a case of pelvic abscess (suppurating pelvic peritonitis) treated by combined abdominal and vaginal incision and through drainage. The abscess formed after a premature confinement, and when the patient was admitted to hospital there was a collection of pus reaching up to one inch above the umbilicus, and she had rigors and pyrexia. An incision was made along the outer edge of the left rectus muscle. The pus was found to be in the peritoneal cavity, being limited by slightly adherent coils of intestines. A counter-opening was made in the posterior vaginal wall and a drainage-tube passed right through. This was kept in three weeks and then removed. The patient made a complete recovery.

THIRD DAY, FRIDAY, JULY 31ST.

Treatment of Sterility in Woman.—DR. EDIS reported a number of cases illustrating the cure of sterility.

Case 1, a woman, married thirteen years, had never been pregnant. She had had menorrhagia for two years. On examination villous endometritis was found. The cavity of the uterus was curetted and after some months the patient became pregnant.

Case 2. Woman, married eight years, never pregnant, menstruation was irregular. She was ordered iron, hot douches, and glycerine tampons. The cervix was dilated with graduated bougies, then with laminaria tents. Iodized phenol was applied to the endometrium. After three months, no conception having occurred, an intra-uterine stem was inserted and worn two months, and patient soon afterward became pregnant.

Case 3. Woman, married four years, but never pregnant, menstruation was regular, but accompanied by pain in the iliac regions; dyspareunia and vaginismus were complained of. On examination the hymen was found to be intact, with a small central perforation; it was incised. The uterus was found to be retroverted, and was accordingly replaced and an elastic ring pessary inserted. Pregnancy, however, did not occur, so the cervix was incised, and an elastic ring worn for twelve months. Her health improved and pregnancy occurred.

Only seven per cent. of married women bear children for the first time after three years of married life, therefore the pregnancy in these cases, the speaker thought, might fairly be ascribed to treatment.

DR. AUST LAWRENCE drew attention to the fact that sterility may be due to other conditions than local. Pregnancy would not occur in women who lived too highly, or were too fat, or indulged in alcohol. One should make sure also that coitus had actually occurred. He thought the principal local cause was narrowness of the os, and consequent diseased condition of the endometrium. He formerly treated these cases by dilating, but now applies the negative current to the interior of the uterus. He had found that this caused the canal of the cervix to dilate and acted beneficially on the diseased mucous membrane. He drew attention to the fact that in some cases where there is apparent sterility the real condition is frequently recurring early abortion, the patient going a few days over her period and then having a profuse menstruation. These cases were due to a diseased condition of the endometrium.

DR. LEITH NAPIER would emphasize Dr. Lawrence's remarks about early abortion. He had found a long course of small doses of mercury and iron to do most good. He thought retroversion a more frequent cause of sterility than anteflexion.

DR. JAMES MURPHY thought too much importance had been attached to retroversion as a cause. He had seen several cases where pregnancy had occurred in a severely retroverted uterus.

DR. BELL thought the cause was almost always endometritis. This might be due to a pinhole os blocking up the secretions, or a flexion might pen up the secretions in the same way.

DR. DRAPER recommended chloride of zinc sticks to be passed up and left in the uterus for several days.

DR. CORDES thought the danger of this treatment was in stenosis of the os occurring from subsequent cicatrization. A sound should be passed into the uterus a few times after this mode of treatment had been employed.

SURGEON-MAJOR PRINGLE said that in Eastern countries the man was most frequently at fault.

DR. EDIS, in reply, said that he did not think anteflexion was a cause of sterility. He insisted on the importance of attending to the general condition of the patient, and thought that electricity was an efficient agent in some cases.

Electricity in the Treatment of Epithelioma of the Perineum.—DR. INGLIS PARSONS recited the case of a woman, thirty-two years of age, who had suffered from an irritable eruption of the perineum for two years. This was at first diagnosed as lupus, but afterward as epithelioma, and was removed by the knife. Eighteen months later the growth recurred. There was then a small mass of epithelioma on the posterior part of the perineum, extending to the anus. As removal would have destroyed the sphincter it was treated by the application of an alternating current of a strength of 400 or 600 milliampères, the patient being placed under ether. The growth separated in a few weeks, the wound healed kindly, and there had been no recurrence. As to the details, he said he used two needles, one being plunged into the growth and the other four inches away. There was danger in applying a current like this near the heart or over the pneumogastric or phrenic nerves, but none in this situation.

The Diagnosis of Spurious and Doubtful Pregnancy.—DR. LEITH NAPIER then read a paper on this subject. Spurious pregnancy is most common about the period of the climacteric and in young women who greatly desired or feared pregnancy. He then discussed the principal sources of error in forming a diagnosis. The one certain sign of pregnancy, the speaker held, was the fœtal heart-sounds, but these would not be heard when there was extensive hydramnios or the fœtus was dead. Errors in diagnosis might also arise from confusion of one kind of pregnancy with another; for example, the pregnant uterus might be so displaced laterally as to simulate an ectopic gestation.

Dr. Aust Lawrence related a case which came under his notice where the patient was apparently in strong labor, but examination showed that she was not even pregnant.

Dr. Swayne dwelt on the importance of making sure that the fœtal heart-sounds had a different frequency from those of the mother, as mistakes might arise where the maternal pulse was rapid.

Treatment of Chronic Disease of the Uterine Adnexa.—Dr. Robert Bell read a paper on this subject. It was important, he said, to make an examination when there was pain in the ovarian region and at the menstrual period. He thought disease of the ovaries and tubes was always secondary to disease of the uterus, and that cervical endometritis was the most common cause of oöphoritis. The first duty in these cases was to treat the uterus. Inflammation, he believed, extended to the ovaries by means of the lymphatic system. He would always give a fair trial to medicinal treatment before removing the diseased appendages by abdominal section.

Obstetric Operations in India.—Dr. Pringle then read a paper on obstetrics among the natives in India. In the presidency of Bengal where he was situated, no provision was made for skilled attendance on the lying-in woman, and the seclusion in which she was kept was so great that she would rather die than have a male doctor. Thirty to forty per cent. of the lying-in women succumbed to puerperal fever or tetanus during the first fortnight. The birth-rate was sixty per mill and the death-rate forty. The lying-in chamber was a small, dark, damp room in a remote corner of the compound. The midwives were excessively ignorant. The speaker gave details of the cruel outrages which had been perpetrated on young children by the system of child-marriage. He very highly approved of Zenana lady doctors, as it was impossible for males ever to see these poor women.

Dr. Harvey confirmed Dr. Pringle's description of the tremendous evils of child-marriage; he had known one or two instances of death as the result of the consummation of marriage at such an early age.

Dr. Godson showed some improved uterine dilators on the principle of Hegar's, from which they differed in being more pointed and in being hollow, so that they could be packed inside one another, the whole series only weighing twelve ounces.

Therapeutic Hints.

Removal of Superfluous Hair.—Dr. E. O. Leberman, of Akron, O., writes: "In the Medical Record of May 30th, 'Doctor' asks for a 'reliable preparation for removing superfluous hair without the use of electricity.' Permit me to offer the following formulæ, which, in my hands, have proven quite successful. I claim no originality, but offer them as the best of quite a large number which have undergone trial in my hands. The following is the formula recommended by McCall Anderson:

℞. Barii sulphidi ..... ʒ jss.
Zinci oxidi ..... ʒ vj.
Mix with sufficient water to form a paste. Sig.: Apply for three minutes and then wash off.

For the removal of stiff, coarse hair, the formula of Neumann is serviceable:

℞. Calc. hydrat ..... ʒ jss.
Orpiment ..... ʒ iij.
Amyli ..... ʒ j.
Aq. calcis ..... q.s.
Ft. pasta.

The pastes should be spread over the parts from which the hair is to be removed as thick as the blade of a knife. The softened hairs should be scraped from the skin with a dull knife or ivory spatula, the parts washed with warm water and afterward thoroughly dried. A bland ointment should then be applied to the reddened surface. The length of time these pastes should remain upon the skin is best determined by the severity of their action. They all cause slight itching, which sensation is followed by an intense burning; when the latter begins the paste had best be removed. The effect of chemical depilatories can scarcely be more than temporary, as their action can extend no deeper than the epidermis; the hair-bulbs remaining, a new growth will soon appear. Great care should be exercised in their application, and their effects should be carefully watched, for sometimes deep and painful ulcerations occur by their incautious use. However, they serve a purpose, and if properly applied will often leave the skin free for several months from the hirsute appendages which disfigured it.

To Check the Secretion of Milk, the application of a solution of camphor, one part, in oil of turpentine, six parts, has been recommended. Care must be taken to prevent injury to the skin, for such a mixture would irritate strongly if kept long in contact with the integument under an impermeable dressing.

Carbolic Acid as a Local Anæsthetic.—Dr. C. T. Meacher suggests a five per cent. solution of carbolic acid in water, as a safe and reliable local anæsthetic in dentistry. Four or five drops should be injected under the gum on each side of the tooth to be extracted. He says in most cases this is effective, and where inflammation exists around the root the action is most satisfactory. Dr. Meacher thinks that with moderate care there need be no fear of constitutional symptoms arising, considering the small quantity used. A French dentist, who uses carbolic acid for this purpose, believes that it is equally as efficacious as, and less dangerous than, cocaine.

Aconite as an Antidote to Insect Venom.—A correspondent from Durango says, that formerly about one-half of the children in the city died from the sting of the scorpion, but now nearly all the lives are saved, if taken in time, by the use of a strong tincture of aconite, of which five or six drops are put in a tumbler half full of water, and a teaspoonful given at frequent intervals.—*Medical Times.*

Smoothing out Wrinkles.—The *Medical Press* is responsible for the statement that a curious application has been made of the absorbable properties of lanolin in the treatment of wrinkles. When well rubbed in lanolin passes directly into the skin and acts as a nutriment to the subjacent tissues, with the effect of smoothing out the folds produced by the attenuating of these structures incidental to age. Several elderly ladies who were induced to give this method of treatment a trial, are said to have been delighted with the result.

Plugging the Posterior Nares.—Dr. A. A. Philip describes the following method of plugging the nares for epistaxis in the *British Medical Journal* of July 18, 1891: A piece of old, soft, thin cotton, oiled silk, or silk, about six inches square—a piece of an old handkerchief will answer—is taken, and by means of a probe, metal thermometer case, or penholder, is pushed "umbrella" fashion into the nostril, the direction of pressure, when the patient is sitting erect, being backward and slightly downward. It is pushed on until it is felt that the point of the "umbrella" is well into the cavity of the naso-pharynx. The thermometer case is now pushed on in an upward direction and then toward the sides, so as to push more of the "umbrella" into the pharynx, and is then withdrawn. The closed end of the sac protrudes well into the pharynx, and its open end protrudes at the anterior nares. The inside of the sac may be brushed with some astringent, such as alum, turpentine, etc. A considerable quantity of cotton-wool is pushed well back to the bottom of the sac in the pharynx. Then, the thermometer case being held well against the packed wool, the mouth of the sac is pulled upon, and thus its bottom is drawn forward, and forms a firm, hard plug wedged into the posterior nares.

The sac may now be packed full of cotton-wool, dry or soaked in some astringent solution. The mouth of the sac is tied just outside the nostril, trimmed with scissors, and the ends of the thread secured outside. In removing the plug, open the mouth of the sac, and, with small dressing-forceps, gently remove the cotton-wool bit by bit. If there is bleeding, simply syringe the sac with weak carbolic lotion or Condy's fluid, and repack with clean cotton-wool. If there is no bleeding when the wool is picked out, gently pull out the sac, or if it be adhering to the mucous membrane of the nostril, apply a little warm water, and it may then be easily removed.

The Effect of Drugs on the Action of the Heart.—Dr. Germain Sée recently presented a communication to the Paris Academy of Medicine regarding the influence of drugs in cases of dilatation of the heart, in which he drew the following conclusions: 1. Sparteine is the drug which diminishes most, and most rapidly, the size of the heart, it strengthens the cardiac muscle most, by increasing its tone and elasticity; on the other hand, with this drug, there is an absence of diuresis. 2. Digitaline diminishes equally the volume of the heart, but acts chiefly on the right cavity, and it only seems to act on the right side if the cavities are previously dilated by some definite pathological condition. 3. Iodide of potassium diminishes the volume of the heart, but in a less degree than sparteine. 4. Antipyrin increases the gross bulk without exercising any influence over the contractile power, or consequently on arterial tension. 5. Bromide of potassium has a similar action to antipyrin, and an opposite effect to iodide of potassium. It dilates the whole of the heart, perhaps chiefly the right side. Caffeine, although an excellent diuretic, has no action on the cardiac muscle. This paper gave rise to an animated discussion, Dr. Dujardin-Beaumetz and others considering that the evidence adduced by Dr. Sée did not at all justify such sweeping conclusions.—*Provincial Medical Journal.*

For Corns and Warts.—A mixture of one part each of lactic acid and salicylic acid in eight parts of collodion, is recommended as an excellent application to warts or corns, effecting their removal in a short time.

Menthol in Hay Fever.—Dr. Lennox Wainwright writes to the *British Medical Journal* that he has found menthol of great service in hay fever. It acts best when placed in an ordinary smelling-bottle mixed with carbonate of ammonia, and used as smelling-salts. Patients say all irritability disappears, and in many cases they get no return of the symptoms.

Preparing the Skin for Antiseptic Operations.—Dr. F. W. Langdon, of Cincinnati (*Lancet-Clinic*), calls attention to the value of benzine as a solvent of oily secretions in the preparation of skin areas for antiseptic operations. An agent that can penetrate and disinfect the pores and follicles of the region to be operated upon, has advantages not possessed by any of the watery solutions in common use.

Borax in the Treatment of Epilepsy.—Dr. Dijoud has tried this remedy in twenty-five cases, and he claims to have entirely cured one, and to have relieved all except six. The duration of the treatment varied from one to seven months, and he was able without inconvenience to carry the dose up to ninety grains a day. This was only possible if a beginning were made with small doses, which were gradually increased; and when the dose exceeded sixty grains daily he found it advisable to add some glycerine to the water and syrup in which the drug was usually administered. The patients to whom Dr. Dijoud administered borax had been treated unsuccessfully with the bromides.

Thymol in Chyluria.—Dr. E. Lawrie reports two cases of chyluria, due to the presence of filaria in the blood, cured by thymol given in doses of one grain, gradually increased to five grains, every four hours.

Chlorosis.—Dr. Brinton recommends the following combination of iron and arsenic in the treatment of chlorosis in young women:

℞. Acidi arseniosi ..... gr. 1-60
Ferri sulphatis,
Potassii carbonatis. .....āā gr. jss.
M. et fiat pilula. Sig.: Begin with three and increase to six pills daily.

—*College and Clinical Record.*

Treatment of Erysipelas.—Dr. C. W. Allen, of New York, in an article on the treatment of erysipelas, in the July issue of the *American Journal of the Medical Sciences*, recommends the following: Internally, such symptomatic treatment is followed as the nature of the case seems to require. Locally, he advises painting the patch and surrounding margin of healthy skin thickly with ichthyol in collodion, ʒ j.–ʒ ij. to ℥ j. If the scalp is the region affected, a watery solution or ointment of ichthyol can be employed. In every case an attempt should be made to arrest the spread either by the band of adhesive plaster or by scarification, or both, the latter to follow the former, in case the disease spreads beyond the adhesive strips. In erysipelas of the face which has not yet reached the forehead, or at least its upper part, a band should be applied tightly about the forehead and just above the ears, the hair being cut if necessary to secure firm pressure. The chances of arresting the process here should be at least equal to those of checking the spread upon an extremity, for we have a hard bony base over which to make our compression. If the boundary is passed, then the scalp should at once be shaved and another band applied higher up. The hair should be cut in any case in which the scalp is invaded or threatened. Then the same application of ichthyol in collodion can be made, as to the face or other part. If there be much tension, swelling, heat, and discomfort (which is not apt to be the case under collodion), any oily substance can be applied over it.

Peroxide of Hydrogen in Asthma.—Dr. I. W. Chisholm, of New Concord, O., says that for the continuous treatment of asthma, in the intervals of the paroxysms, he has found nothing equal to peroxide of hydrogen by inhalation. He also, in conjunction with this, advises the use of strong coffee at meals, and whenever desired by the patient. For the paroxysms he finds that morphine hypodermically affords the most speedy relief.—*Columbus Medical Journal.*

Thuya in Hydrocele and Hæmorrhoids.—Dr. Howe, of Cincinnati, says that a diluted tincture of thuya occidentalis injected into the tunica vaginalis testis is of great service in hydrocele. If well injected and squeezed into every part of the sac, this will be obliterated, and the effusion will not return. Injections of thuya into hæmorrhoidal tumors promotes their destruction with more certainty and less danger than does carbolic acid.

Donovan's Solution in Gleet.—The solution of the iodide of arsenic and mercury is said to be of material service in the treatment of gleet. It is given for this purpose in the dose of ten minims, three times a day. A correspondent writes that he feels justified, so uniform has been his success in controlling a chronic urethral discharge by Donovan's solution, in calling the remedy almost a specific for gleet.

A New Remedy for Ivy Poisoning.—Dr. James J. Levick, of Philadelphia, writes to the *Medical News*: "In a case of poisoning of the hands from *rhus toxicodendron*—poison oak—recently under my care, which had reached the vesicular stage and was attended with much swelling and burning, the happiest results promptly followed the free dusting of the powder of aristol on the affected parts. The change was almost magical, so sudden and so prompt was the relief afforded. Might not this powder, applied in the early stage of the disease, do much toward preventing the ulceration and pitting of variola?"

Correspondence.

POLITICS AND INSANE ASYLUMS.

To the Editor of the Medical Record.

SIR: Your editorial, in a recent issue of the MEDICAL RECORD, upon "Politics in our State Insane Asylums," based upon a report of the meeting of the State Commission in Lunacy with the managers and superintendents of the State insane hospitals, must have shocked all who were present at that meeting, as it did the writer.

The only reference to politics at the meeting was made by a Commissioner in Lunacy, who made the reasonable suggestion that county officers of the poor did not exert themselves to the utmost in inducing friends to take relatives from the hospitals who were able to leave, although not recovered, for fear of exciting the enmity of their constituents, and inviting "political disaster." On the other hand, it was admitted that medical superintendents used all means within their reach to induce relatives to take suitable cases from the hospitals. The additional officer it was proposed to add to each hospital was not considered necessary, as he could not effect more than can now be attained by suitable persons already employed upon each hospital staff, and he would be a supernumerary. With this the Commission concurred.

Very respectfully yours,
P. M. WISE,
Sup't of St. Lawrence State Hospital.

[We publish the above note with pleasure, but the fact remains that there are persons kept confined in lunatic asylums because their friends have political influence. The remarks of the Commissioner, as we are informed by Dr. Carlos MacDonald, were called forth by the reading of a letter from a County Superintendent of the Poor stating that there were several patients from his county in the State hospitals, as a county charge, whose friends were able to pay for their support, but who evaded doing so through political influence, and that to complain of this would jeopardize his, the County Superintendent's, official tenure. We are sincerely glad to believe, on the assurance of those best informed in the matter, that the New York State Hospitals for the Insane are free from partisan influences, but it would seem that the County Superintendents of the Poor need looking after.—ED.]

THE HANK TRUSS AGAIN.

To the Editor of the Medical Record.

SIR: The only criticism of my article on the "Treatment of Hernia in Children by Means of the Hank Truss," which was published in the RECORD, May 30, 1891, occurred in the issue of July 18th, under the head of "Correspondence." The other unfavorable remarks, which were limited to one written communication, read by the Secretary of the Surgical Section following my paper, could only apply to the principle of the hank truss, as the author was unable to know what I claimed, or the results shown. The fact that cases were presented after having worn a truss from a few days to several weeks, and others whose hernias had been cured for some months, all to the satisfaction of the members of the Section present, was my reason for not making a reply. The question to be asked, Does the hank (or worsted) truss afford sufficient support for the cure of hernia? Clinical facts speak quite in the affirmative; but I am pleased to know that others have had as good, or better, results with it than I claim. The following communication, from Dr. R. W. Lovett, of Boston, is offered for publication with his consent:

DR. S. E. MILLIKEN.

MY DEAR DR. MILLIKEN: I still use the worsted truss on practically every case of hernia in children that comes under my care. I cannot speak from anything more than my personal impression in telling you about my experience with it; but it seems to me to meet the work better than any of the spring trusses, and to be more efficient than they are, even in the case of children eight and ten years old. I have recently had two cases of hernia occurring in boys six and eight years old, where, by the use of the worsted truss, and a good deal of care on the part of the parents, the hernia was, so far as I can judge, entirely cured. Two cases of incipient hernia have been entirely cured. I have about one hundred and fifty cases of hernia in children, which I am investigating as to the end results. I have not got far enough with them to speak of the efficiency of the worsted truss; but when they have been analyzed I think that I shall have some definite data.

In the meantime I can only give you my impressions that the truss is by all means the best one in cases of young children; that it affords a definite and non-irritating support to the inguinal ring; and that it is much more easily managed by the parents than the other forms of truss.

If I have said anything that is of use or interest to you it is quite at your disposal for publication or anything else, and if there is any further information that I can give you I will gladly do so. I use the truss in my clinic practically as a routine treatment.

I am, very truly yours,
R. W. LOVETT.

At the Hospital for Ruptured and Crippled, where something over three thousand cases of hernia (adults and children) are treated annually, it is found that a small percentage are not relieved, whatever truss may be used. These are the unintelligent and careless patients on whom no truss will be worn twenty-four hours as first applied, and failure in such cases should not condemn to utter uselessness an apparatus that has proven highly successful both in hospital and private practice. In this day of dispensaries, when patients have such a number to choose from, no one expects to be able to follow every case to its termination, and I believe due allowance was made for the shortcomings of such patients in my original article. I do not use the hank truss to the exclusion of all others, but decidedly in the majority of my cases under one year of age. Mothers have even objected to the change from a hank to a celluloid or hard rubber truss, in occasional instances, when I considered the spring truss more safe in children just beginning to walk.

Respectfully,
S. E. MILLIKEN, M.D.

157 MADISON AVENUE.

Navy News.

Official List of Changes in the Medical Corps of the United States Navy for the week ending August 22, 1891.

DU BOSE, W. R., Passed Assistant Surgeon. Ordered to duty at Naval Academy, Annapolis.

HARMON, G. E. H., Surgeon. Detached from Naval Academy, Annapolis, and wait orders.

WELLS, HOWARD, Surgeon. Ordered for temporary duty at Naval Station, New London.

HOEHLING, A. A., Medical Inspector; PARKER, J. B., Surgeon; and NORTON, O. D., Passed Assistant Surgeon. Ordered to Naval Academy, Annapolis, September 3d, to examine, physically, candidates for admission to the Naval Academy.

Total Helplessness, according to a pension bill introduced into the United States Senate during the last session of Congress, is caused by the loss of a leg or arm so close to the hip or shoulder that an artificial limb cannot be worn.

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Original Articles.

PULMONARY CARCINOMA AND SARCOMA.

TWELVE CASES, WITH ILLUSTRATIONS.[1]

BY THOMAS E. SATTERTHWAITE, M.D.,

NEW YORK.

THE chief object of my paper is to add a few contributions to a matter that is comparatively obscure, and where any new data have practical value for the physician and surgeon.

I will venture to state at the outset (to avoid misunderstanding and confusion) that I shall not make any distinction between pulmonary and mediastinal tumors. I do so for the following reasons: Anatomically speaking, we recognize the three mediastinal spaces as valuable in student life for locating certain organs or systems; but from the stand-point of the pathologist or clinician we do better to overlook them. They are unnecessary, because we connect in our minds any given lesions with the parts that occupy the spaces, rather than with the spaces themselves. Besides, I doubt if any disease of importance originates in the proper tissue of the mediastinum, unless it be abscess, and even then an abscess does not rise to significance unless it attacks glands, vessels, nerves, lymphatics, the pleura or pericardium, etc. In fact, although elaborate and systematic articles have been written on diseases of the mediastinum, by continental physicians and others, I do not remember to have known or read of an instance where the description would not have been clearer if the term mediastinal had been altogether omitted.

This view appears to have been quietly sanctioned by standard writers on pathological anatomy,[2] while clinicians generally are relegating the mediastinum to a very subordinate position,[3] if they mention it at all.

Briefly, again, it may be said that mediastinal growths never yield clinical symptoms until they have either invaded the substance of some important system within their boundaries, or of some contiguous tissue, like the pleura or pericardium.

Tumors of the lungs are either, 1, carcinomas; 2, sarcomas; 3, lymphomas (Hodgkin's disease); 4, composite growths; 5, dermoid cysts; possibly, 6, enchondromas; or, 7, fibromas. In the following statements I shall call attention to only the more common of them, viz., carcinomas and sarcomas; my object being, primarily, to indicate the means we have at present for making a differential diagnosis *intra vitam*.

At first sight it may appear strange that we have so little information on this topic, considering that carcinomas are very common, and sarcomas diseases that every physician meets with occasionally in his practice.

In explanation, however, it may be said, first, that lung implication in cancer is comparatively uncommon; then again, it occurs during a late period of life, when the primary disease or its more immediate consequences have so overshadowed the visceral complications that they have either escaped observation, or (if detected) have been held as comparatively unimportant, in the face of inevitable and impending death. Besides, the vast majority of reported cases have to be disregarded, because their pathological history is so unsatisfactory as to be almost worthless; or, where the pathological account happens to be worthy of consideration, the clinical history is apt to be entirely lacking, perhaps because it has been neglected at the bedside, or because (for some other reason) it has been inaccessible.[1]

I presume there are some here to night who are lamenting with me that the scientific physicians of Germany have added so little to practical pathology and clinical medicine during the last few years.

Bent on worshipping the false gods of personal or political pathology, they are only just beginning to find out their errors, which have been the more disastrous for scientific medicine, because the civilized world had begun to feel that Germany was the fountain-head of medical inspiration.

Let us hope that the coming reaction in the public mind against scientific research, which will inevitably take place, will only be temporary. At any rate, let us remember that there is such a thing as false pathology; and again, that sound pathology without its application to clinical medicine or surgery is of curious interest, and not of practical value.

Pathology forms the true groundwork of medicine, in its application to the wants of mankind; but if the foundation stones are laid in mire and quicksands, the superstructures will, sooner or later, totter and fall.

There are, however, in our literature, some conspicuous instances where pulmonary tumors have been studied and recorded from the bedside to the autopsy table, and in an instructive manner. They will be alluded to in this paper; and I am glad to say that American contributors hold a prominent position in the list, even if it be a very short one.

Carcinoma of the lungs, has of course, been frequently described, though for reasons just given the data have not been of much service to me in this paper. I doubt if the clinical histories of its several varieties have ever before been laid down. If so, I have been unable to find any systematic mention of them. There are three forms that I will briefly describe.

The most common is the medullary or encephaloid, vulgarly known as rose cancer (Fig. 1), which I believe to be invariably secondary to disease elsewhere, as in the uterus, breast, pancreas, etc. From my own records of three hundred cases, as tabulated for me some years ago by Dr. J. C. Bailey, I found that it occurred more frequently in the liver and breast than in the lung, being *par excellence* that form which secondarily attacks internal viscera. It may be expected in the lungs in only about ten per cent. of these internal recurrences.

Medullary cancer occurs most frequently in the fourth decade of life, but may appear as early as the third, or as late as the sixth decade. As the primary disease is chiefly located in the uterus or female breast. Hence medullary cancer of the lung is essentially a female disease. It develops rapidly (as a rule) and is apt to become bulky; but it degenerates early, owing to the paucity of its vessels, deficiency in fibrous tissue, and preponderance of epithelial or other cellular elements.

Pain is a marked feature of the disease, but it is chiefly due to pressure. Cough is not always present (as Walshe

[1] Read before the Medical Society of the County of New York, April, 1891.

[2] Compare works of Green, Coats, Cornil and Ranvier.

[3] Compare among writers on clinical medicine Niemeyer and Flint.

[1] Allusion is here made to the chief contributions on this subject as found in Virchow's Archives.

has claimed), nor is there necessarily any expectoration of catarrhal or bloody matter. The affected side may shrink or bulge out. When the deposit has attained the size of a hen's egg it may usually be mapped out; as it occurs in the parenchyma of the lung rather than at the root. Here is a sphere in which auscultatory percussion should earn its laurels. Dulness at first will be followed by flatness, if any considerable portion of the lung is invaded (as a lobe, for example). "Blowing tubular respiration" is a very prominent sign, and Walshe [1] has very properly called attention to it. The duration of medullary cancer is difficult, and in fact, impossible to estimate, but its short continuance is largely to be laid to coincident cancerous infiltration of other parts, and the profound constitutional disturbances which they jointly produce.

At best, this type of cancer exists but a few months in the lungs. But it is this straw that may break the camel's back. My statistics in all cases of medullary cancer (including the lung complication), make five months the average duration of life. But I may as well say here, that in statistics of carcinoma generally, the two forms, scirrhous and medullary, have so frequently the relation of cause and effect to one another, that they cannot be separated statistically. With this view of their relation in mind, I may again call attention to some figures I gave in 1885.[2] At that time I had under observation, or was in communication with, eight patients from whom a breast had been removed for cancer from seven to thirteen years previously. Some of them were fairly well at that time, and some may still be alive. In advanced life the progress of cancer is slow, and often appears to be arrested for considerable periods of life. This rule is especially applicable to people in the seventh to eighth decades of life. The favorable statistics alluded to in breast cancer are seen only in about ten per cent. of all breast cases, and my percentage agrees in this respect with that of the late Dr. Samuel W. Gross, one of the most exact and painstaking of our surgical pathologists. Of the remaining ninety per cent. the average duration of life is about twenty-five months.[3] Walshe has put the duration of lung cancer at from three to twenty-seven months. But for reasons already shown, the average duration of cancer can only be reckoned approximatively.

I may add here, parenthetically, that in all my cases of breast cancer, excision had been practised, and I take this opportunity of stating again, that I believe the good results were largely due to early and thorough operative measures.

In medullary cancer there is sometimes acceleration of the pulse and rise of temperature, but these signs are not constant. Chills and sweats may also occur, but they are probably due to absorption of disintegrating matter. Emaciation always is found in advanced periods of the disease.

The second form of cancer that I have seen in the lungs is the squamous epithelioma—common upon the lip and external genitals. It is seen about the middle periods of life; is secondary; but owing to the small size of the deposits, whether single or multiple, they may for a considerable time escape detection. Death occurs about six months after the inception of the primary disease, to judge by my cases, where the whole course of the primary and secondary growths has afforded opportunities for studying them. The tongue and œsophagus are favorite starting-points. Death, in these instances, is largely due to mechanical interference with deglutition. The symptoms are similar in general character to those of medullary cancer, but differ in degree rather than in kind. They are milder in character and slower in progress; occur chiefly in the male sex, in the fourth to sixth decades of life; and are found, as a rule, at the root of the lung, though they may also be scattered through the parenchyma. Sometimes they develop by extension from without into the lung, as in epithelioma of the œsophagus.

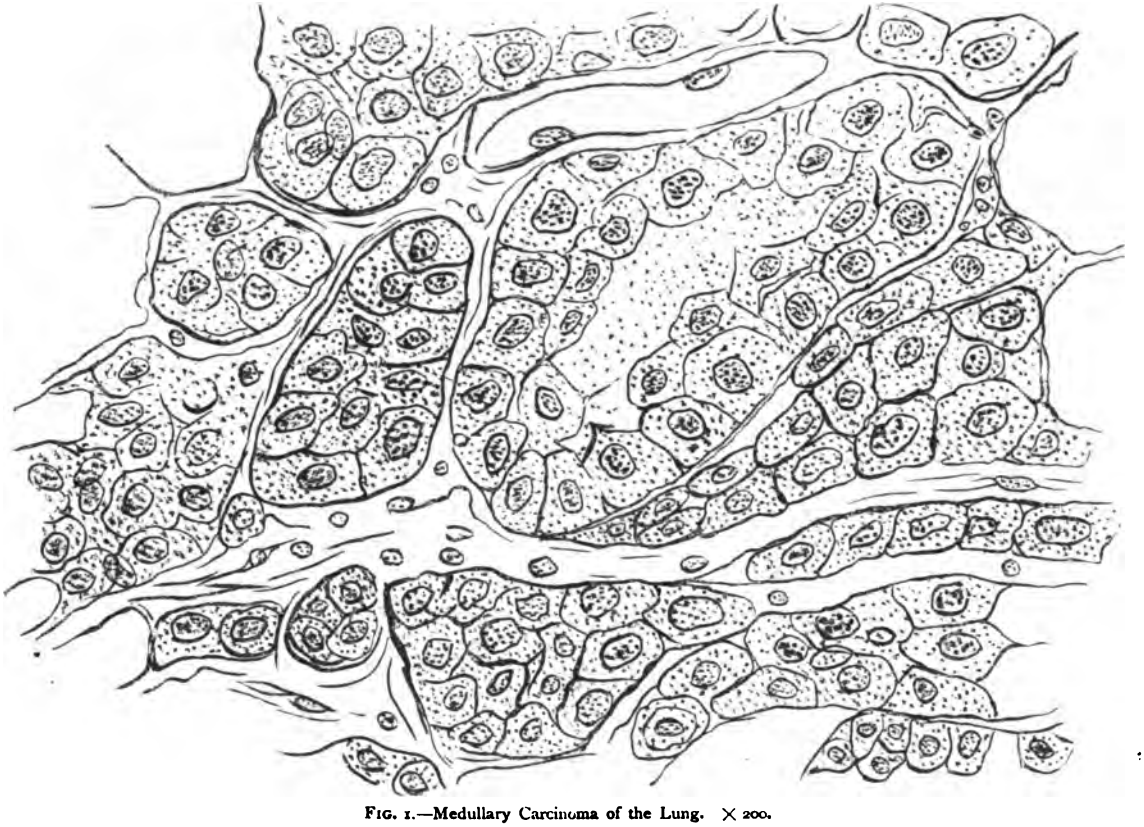

FIG. 1.—Medullary Carcinoma of the Lung. × 200.

In justice to others I must here state that a third form of lung cancer has been described at length by continental and other writers.[1] Of it I have had no personal experience in the lungs. I refer now to a type of epithe-

[1] Walshe: Diseases of the Lungs, p. 522, 1871.

[2] See Wood's Reference Handbook, Art. Carcinoma.

[3] See One Hundred Cases of Carcinoma (Satterthwaite and Porter), MEDICAL RECORD, No. 17, 1879, and Wood's Reference Handbook, etc., Article Carcinoma.

[1] Compare cases by Perls, Arch. f. Path. Anat., 56, p. 455; Chiari, Prag. Med. Woch., 1883, p. 497; Eberth, Arch. f. Path. Anat., 49, p. 48; Finley and Parker, Med. Chir. Tr., 60, 1887; Fagge, Pract. Med., ii., p. 99.

lioma that has been called cylindrical epithelioma (Fig. 2), which has been quite frequently confused with papilloma, as the two often originate from the bronchus, and at an early period of their growth are indistinguishable. In its full development it is known as the "cauliflower growth." Developing in tissue contiguous to, if not in actual contact with, the lung, it has sometimes been classed under primary cancers of the lung, leading, of course, to much confusion.

The clinical history given is as follows: Occurring mostly in the third decade of life, it (like the preceding form of epithelioma) appears to be a disease of the male sex. Duration is brief, usually from five weeks to six months. Subjective signs have been dyspnœa and pain, referred to a pleurisy. Cough is common, as also expectoration, which may be pink or bloody. Hæmoptysis moderately frequent. Bulging of the chest as noted in two instances is naturally to be expected, because the growth is apt to be bulky. Pulse and respiration may be neck, due probably to glandular implication. The prevertebral and bronchial glands appear to have been affected in all instances. Emaciation is a prominent feature.

The above illustration (Fig. 2) was taken from a specimen of cylindrical epithelioma in my possession, though it did not occur in the lung.

Sarcomas of the lungs come second in order of frequency (Figs. 3 and 4). But few cases, however, have as yet been recorded with satisfactory clinical and pathological details; one such, however, has been given by Fraser (*Edinburgh Medical Journal*, 1880, p. 1). It came under observation in 1879, and the whole record that has been furnished is a model of pathological exactitude and clinical thoroughness, that should be an example for us all to follow. I regret that the limits of this paper prevent me from quoting it at length. The following experience has been taken from seven cases, from which I have gleaned the following generalizations. Sar-

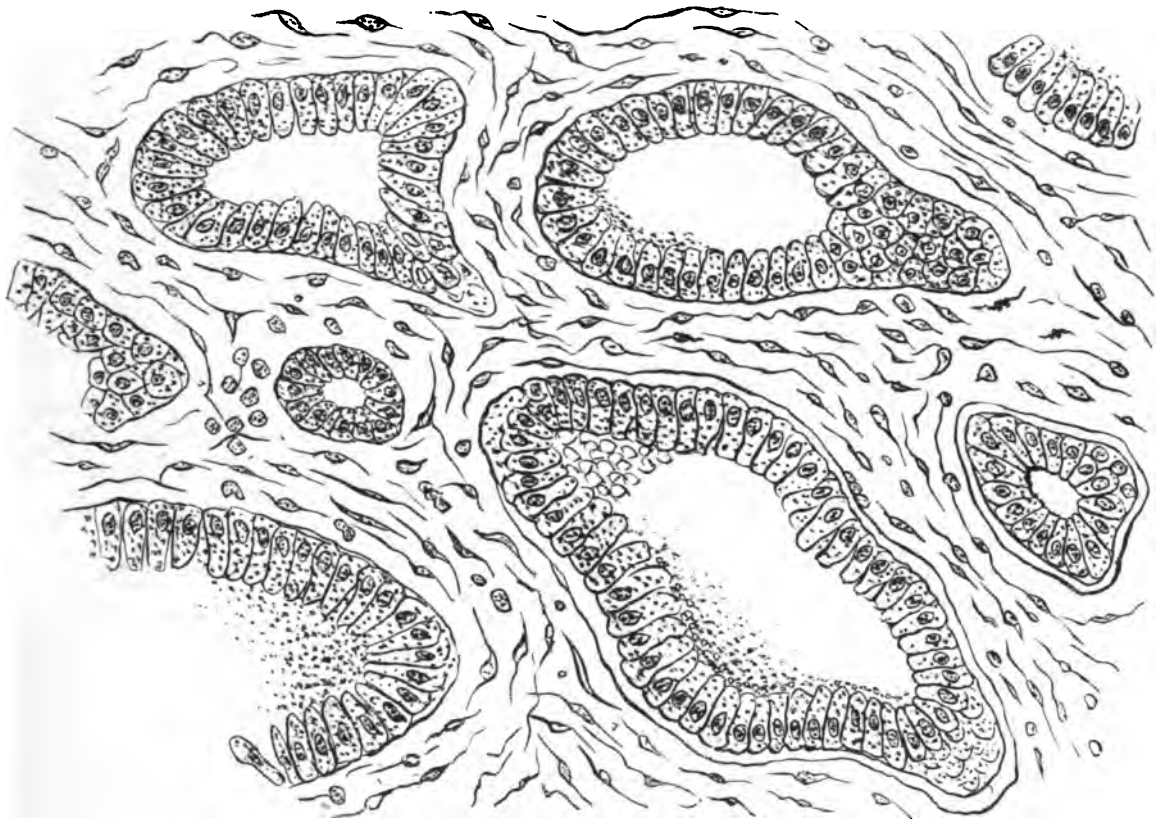

FIG. 2.—Cylindrical Epithelioma. × 200.

accelerated. The former may rise to 120. The temperature may also be elevated.

On percussion dulness or flatness will be elicited, according to the area or location of the deposit. On auscultation, the breath-sounds may be faint or absent, especially if the disease originates within a bronchial tube. At an early period, coarse or moist râles may be expected, and prolonged expectoration due to compensatory emphysema or obstruction in a bronchus. Over the flat area vocal fremitus may be absent. This has been held by Wintrich to be a pathognomonic sign. It is not a reliable sign, however, in all cases of lung tumor, as it may go and come. In this particular variety of cancer (that is especially apt to occlude larger air-tubes) it may prove a valuable diagnostic factor.

At the circumference of the deposit, if large, respiration may be high-pitched. The heart's apex may also be displaced. Owing to the fact that the deposit is apt to be at the root of the lung, dysphagia may be expected. Pleurisy, wet or dry, may occur or may not. Enlargement of the superficial veins has been noted. In some instances there has been cyanosis, or a dusky hue of the countenance. Sometimes there has been œdema of the

comas usually develop in young people, *i.e.*, within the second or third decade of life. They are always secondary formations when found in the pulmonary tissue. They give no symptoms until as large as an English walnut, but often pass undetected when as large as a hen's egg, or even a man's fist. Hence it is impossible from present statistics to determine their average duration. As in cancer, the primary and secondary diseases have to be considered together, if we desire to reach any conclusions, even if they are only approximative. From this point of view the disease may last from eleven months to five years. I allude entirely to fatal cases. But in many instances we have no record of a recurrence, and the surgeon may feel confident that his operation has effected a cure. In this connection I should say that the microscopic diagnosis of sarcoma often presents unusual difficulties, especially in round-celled sarcomas (Fig. 3), where a differential diagnosis between the neoplasm and a simple inflammatory deposit may be impossible, apart from the clinical history. Sometimes sarcomas are pigmented, as in the tumor from which my drawing was made. In them there are hardly any difficulties in the way of a microscopic diagnosis (Fig. 4). In some of my non-fatal cases,

many years have elapsed without a recurrence. In a case given by Drs. Girvin and Formad, of Philadelphia,[1] the patient survived ten years.

The life history of sarcomas, however, begun in such magnificent style by the late Dr. Gross, has yet to be completed. At present we know very little about them.

In six of my fatal cases the average duration of life was forty-four months, or about twice that of scirrhous cancer.

As soon as the lung has been invaded, especially in sarcoma of the long bones, the regular symptoms are dyspnœa, and pain that is described as violent or "stitching," as in pleurisy. Occasionally there is cough, and the expectoration is apt to be abundant, sometimes mucous in character, sometimes streaked with blood. At first, lung expansion may not be interfered with, but as the growth extends it will diminish, and may cease altogether. Sometimes the thorax will be expanded by the bulkiness of the tumor, or it may be retracted; and the difference will depend rather, I think, on the texture of the tumor, than on its bulkiness. In general, the greater the cellular element the greater will be the chest-expansion; on the other hand, when the fibrous element is in excess contraction is to be expected. Where both lungs are involved, it may be difficult to determine whether the thorax is contracted or expanded.

The pulse will increase in frequency according to the area of pulmonary tissue involved, other things being equal. It may reach 90 or 100, but rarely exceeds this last figure. Elevation of the temperature is not usual at first, but is customary toward the fatal issue. It may reach 100° or 104° F., or upward. Such a rise of temperature may, I think, be due to the absorption of disintegrating particles of a degenerative character, as the growth will inevitably soften when it increases in bulk.

Absence of fever at the outset, when dulness is first appreciated, is of regular occurrence and constitutes an important negative sign.

The respiration increases in frequency contemporaneously with the pulse, and may reach 24, 32, or 40.

On percussion, dulness will be found as soon as the deposit attains any considerable bulk, and flatness will follow, when a considerable area of the lobe is involved. As pleurisy will certainly occur when the growth reaches the pleural surface, we should be on the lookout for a plastic or watery effusion.

On auscultation, there will be noted, in almost all instances, the mucous râles of bronchitis, or perhaps more properly of bronchorrhœa. This is an early sign, but may merely denote that the secretion is delayed in the larger tubes, by deficient expansion, or by pleuritic exudations.

Bronchial breathing and bronchial voice are to be expected when the larger air-tubes are pervious and the neoplastic growths lie between these tubes and the listening ear. As the result of pressure on the lung or undue efforts at respiration, there may be more or less of compensatory emphysema, such as occurs in phthisis or in any form of lung consolidations. Furthermore, as I have already intimated, the regular auscultatory signs of pleurisy should be expected.

Over the area of dulness vocal fremitus may be absent. How valuable this sign is I do not know.

In Fraser's case there was marked "arching" of the sternum, fulness in the axillary and infra-axillary regions, intercostal pulsation, and cutaneous hyperæsthesia. These symptoms were absent in my cases, or, at any rate, were so subordinated to the others mentioned that they were not noted. Toward the fatal termination there will be emaciation and occasionally night-sweats. The disease is, as I have already stated, secondary. I have never seen or read of a case that has convinced me to the contrary. Hence, the most important diagnostic factor is the history of a primary disease. In three, or nearly half of my cases, it was secondary to bone sarcoma, and there was no difficulty in determining *intra vitam*, with a great degree of certainty, the general character of the secondary formation. Sarcomas may develop either from the periosteum, bone marrow, or from the intermuscular planes, as those of the thigh, from the fibrous septa of the brain as in Dyce Duckworth's[1] case probably, or from any interstitial connective substance.

From the foregoing facts, all of which have been derived from genuine cases of disease, it will appear that we are furnished with a large number of data, some of which are sufficient to enable us to make satisfactory diagnosis as to character of the lung deposit.

In another class of cases we have to reason by exclusion in the main.

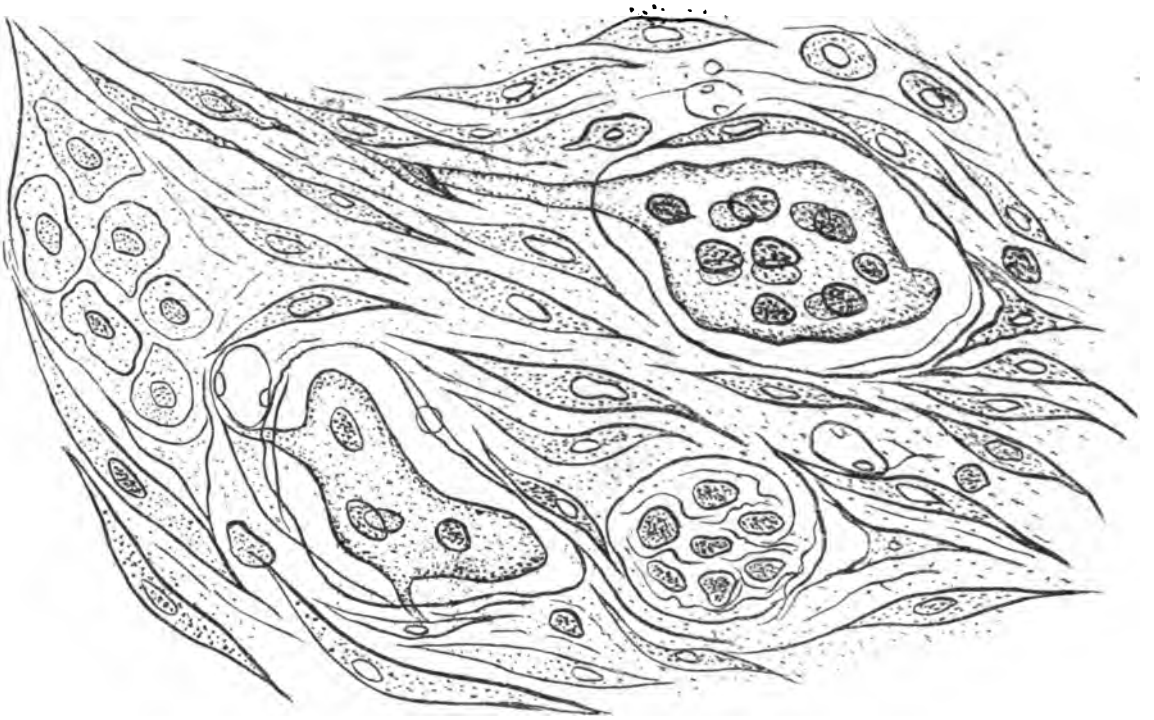

FIG. 3.—Mixed Sarcoma of the Lungs. × 200.

[1] Girvin: Transactions of Pathological Society of Philadelphia, x., p. 112.

[1] Dyce Duckworth: Transactions of the Pathological Society of London, 1884-5, 13, 120.

Pneumonia, whether lobar or bronchial, has its own peculiar history, as indicated by the characteristic chill, adhesive sputum, rapidly increasing area of dulness or flatness, limited period of fever, abnormal relation between pulse and respiration, possibly by the occurrence of the pneumococcus.

Phthisis has the family history, characteristic sputum, diurnal temperature—variations, early implication of apices, presence of bacilli, and diarrhœa.

Aneurism is excluded by the absence of murmurs, of circulatory disturbances, and by the vascular tumor. In pleurisy with effusion we may have difficulty, but its sudden appearance, with friction-sounds, alteration of level of fluid to correspond with changing position, and finally the aspirating needle, should enable us in most cases to overcome the difficulty.

But these are negative signs. The positive are, first, in most cases, an external primary growth that has been examined so as to determine its microscopic characters. Then, after a variable time, the sudden appearance of a pulmonary deposit, without any acute phenomena except those that are called "pressure symptoms," including dyspnœa, pain, or change in the shape of the chest.

Though there are many sorts of tumor that have been described as belonging to the lung, some are so rare and doubtful that for practical purposes we may exclude them and limit our study to carcinomas, sarcomas, lymphomas (lympho-sarcomas), composite growths, and dermoid cysts.

Now, of these we may usually eliminate dermoid cysts, because according to our present knowledge they occur almost exclusively, if not invariably, in females, and are distinguished by spitting of hair from time to time. In composite tumors there has been always a primary tumor of the testicle or of the parotid region. Exceptions to this rule are doubtful. In excluding Hodgkin's disease (lymphoma), we may have difficulty, as my experience has shown, when the disease originates in deep-seated and inaccessible lymphatic glands; but when it originates in the neck, groin, or axillary region there should be no difficulty, as the peculiar enlargement of the glands and the infiltration of the periglandular tissue is unlike anything else, and the diagnosis can be almost made at the first glance. Furthermore, we invariably find in Hodgkin's disease, as the disease advances, more or less anæmia and dropsies, and general implication of internal viscera, such as the liver and spleen.

In the differential diagnosis between sarcoma and carcinoma, we have in each an antecedent primary focus, which in the majority of my cases appears to have been easily diagnosticated, especially after removal by surgical means. Sarcoma is also pre-eminently a disease of early life as I have said—the second and third decades; carcinoma of the fourth, fifth, and later periods. In sarcoma the recurrences, if they occur, are apt to be local for a time. The lung is only attacked after the disease has existed for some considerable time. In carcinoma the lungs are apt to be involved at a comparatively early date. In sarcoma we find the same class of physical signs as in carcinoma, but they are less pronounced, as a rule. In a certain number of cases the diagnosis presents what are now insurmountable difficulties, as for example where a carcinoma starts from a bronchus, or a sarcoma from the periosteum of the body of a vertebra. But even in such instances the diagnosis has been made as in Dr. Girvin's patient, where Dr. Formad determined its character by a microscopic examination of expectorated matter. Such good fortune as to obtain a portion of the growth by expectoration, is, I fancy, very rare. In all forms of lung tumor auscultatory percussion has a useful sphere. Thus far it does not appear to have been practised successfully to any very great extent.

If from the foregoing statements of facts, and of inferences drawn from them, I have made this topic any

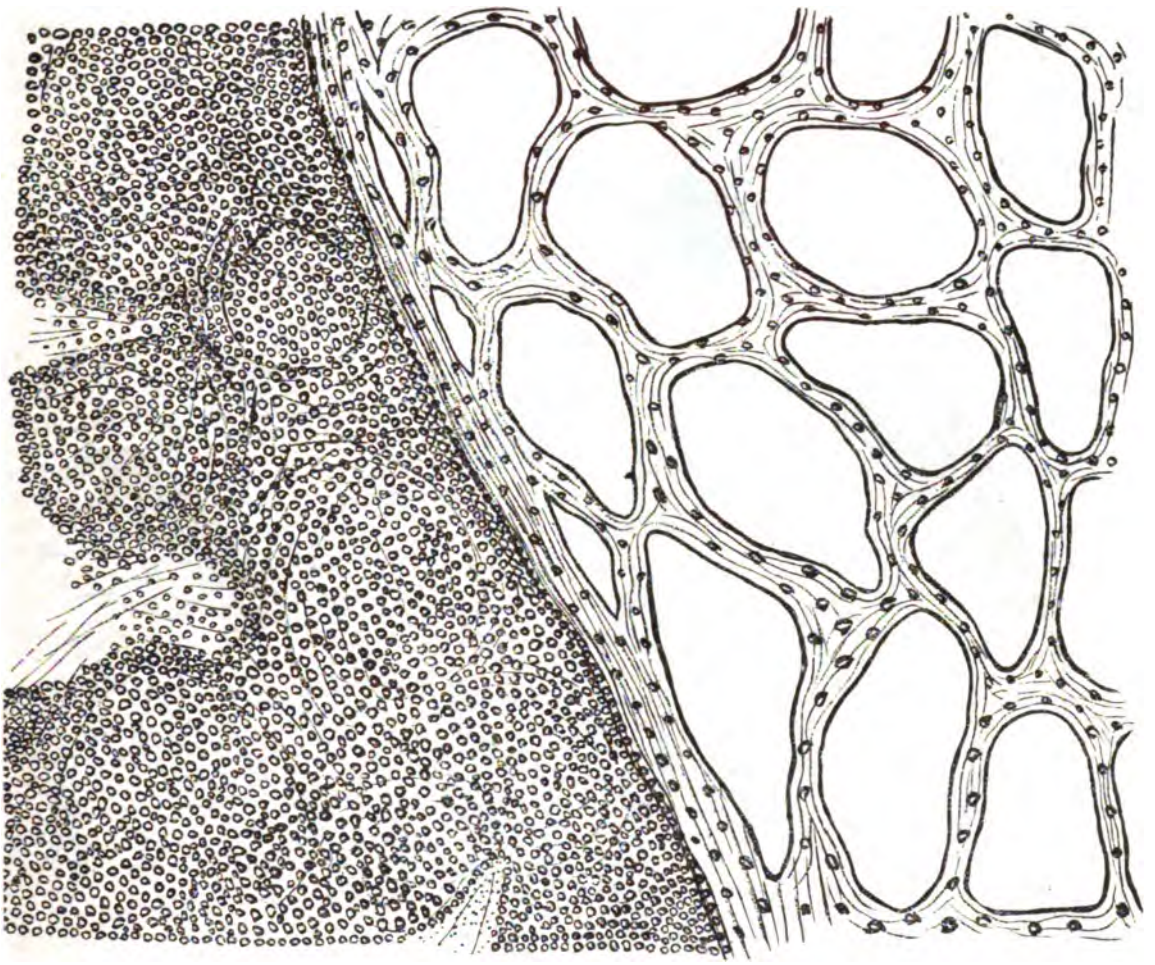

FIG. 4.—Small Round-celled Sarcoma of the Lungs. × 200.

clearer, the purpose of the paper will have been accomplished.

CASE I. *Medullary Carcinoma of Uterus and Lungs.*—E. W——, aged thirty; domestic; was admitted into hospital on May 20, 1890. In the preceding January, after injuring herself by a strain, from helping to move some furniture, she had a miscarriage between the second and third months. Had flooding eight weeks later, and then again after an interval of three weeks. On examination it was found that a large mass occupied most of the pelvic cavity. The patient dying suddenly, it was found that a hemorrhage had taken place into the abdominal cavity, producing almost instant death from great loss of blood (forty-six fluid ounces). A carcinoma of the fundus uteri had extended so as to involve the right ovary, and it was this mass that had been felt during life and which was the source of the hemorrhage. The lungs contained nodules in size from a pea to an English walnut, and microscopic examination proved that they were carcinomatous in character. No pulmonary symptoms noted during life.

fore admission began to have pain in her side. Has had irregular chills, fever, and sweats. Urine contained a little albumin, some blood, and granular casts.

Physical examination reveals flatness over left thoracic cavity behind, from one inch below angle of scapula to base. Corresponding respiratory murmur feeble. "Blowing" character noted in respiration for two inches about this area of flatness. In front fair resonance with exaggerated respiratory murmur. Left chest measures 15¼ inches at level of angle of scapula. Right, 13 inches at corresponding level.

On July 1st, continuous dulness was noted to crest of ilium and marked bulging of left hypochondrium. Slight enlargement of inguinal glands. Patient died on August 18th.

On post-mortem examination it was found that the diaphragm on the left side was pressed up to the third intercostal space, and on the right to the fourth space. Lower surface studded with cancerous nodules. Left hypochondrium filled with a cancerous mass involving the upper two-thirds of the kidney and the left lobe of the

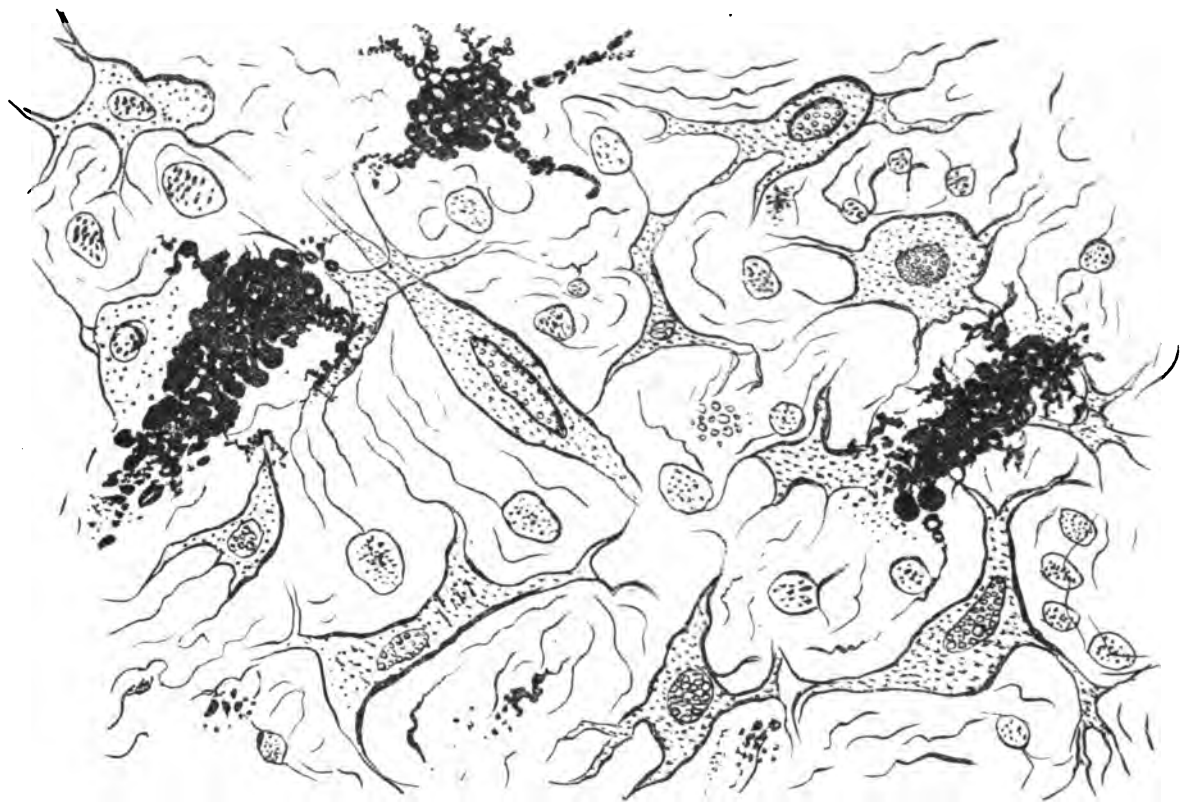

FIG. 5.—Melanotic Sarcoma of the Lungs. × 200.

CASE II. *Carcinoma of Breast and Lungs.*—M——, aged fifty-six; married; admitted to hospital July 18, 1879. Had experienced the operation for removal of mammary carcinoma on two occasions, the first two years before, the second one year ago. For three months had felt pain in back between the shoulders. Shortly after admission, paralysis of right lower extremity occurred, then paralysis of both lower limbs. At post-mortem examination softening of the cord was found in the dorsal region, and cancerous nodules projecting into the spinal canal. In the brain there were adhesions between the pia and dura, and a gelatiniform deposit with fibrinous thickening along the course of cerebral vessels.

In one lung were found in the lower lobe cancerous nodules the size of a hen's egg. Liver and broad ligament also contained similar nodules. No pulmonary symptoms during life.

CASE III. *Carcinoma of Pancreas, Liver, Kidneys, and Lungs.*—M. N——, aged forty-nine; domestic; admitted to hospital June 18, 1881. Family history phthisical. Five years before admission complained of pain in her chest. Pain lasted one year. Three months be-

liver, the tail of the pancreas, and the lower lobe of the left lung.

CASE IV. *Epithelioma of Tongue and Lungs.*—D——, aged forty, male, entered hospital in December of 1877, for cancer of the tongue, supposed to be due to smoking. Half of the tongue was removed in March, 1878, after ligature of both lingual arteries. The patient survived only three months, dying of exhaustion. At death epitheliomatous nodules were found in the lungs.

CASE V.—G——, aged sixty-three, male, entered the hospital in January, 1878, for cancerous stricture of the œsophagus, which was treated by œsophageal bougies with relief to his pain. Death occurred from exhaustion six months after admission to hospital. Disease extended into lung, causing pulmonary gangrene.

CASE VI. *Central Osteo-sarcoma of Femur, Cranium, and Lungs.*—W——, aged thirty-eight; carpenter; was admitted to hospital November 14, 1876, for central osteo-sarcoma of the left femur. The thigh was amputated a few days later. The patient made a good recovery, and in less than two months left the hospital with his wound entirely healed. He was readmitted, however,

three months later, suffering from dyspnœa, cough, and night-sweats. There was now a tumor of the frontal bone. On physical examination, dulness was found at the right apex. Temperature about 100° F. Signs of bronchitis. The patient's condition became rapidly worse, the pulmonary consolidation increasing. Death took place from exhaustion about twenty-one months after the disease began in the thigh.

On post-mortem examination the lungs were found filled with sarcomatous nodules, varying in size from a cherry to a child's fist. The largest nodule occupied the left side of the pericardium and extended into the left lung. All of the tumors had a peripheral zone of pinkish-gray color, enclosing a soft yellowish-gray friable centre. Some contained calcareous matter, some fairly formed bone. The tumor of the cranium occupied the entire thickness of the frontal bone, and was adherent to the dura mater. It presented the characteristic appearance of an osteo-sarcoma (see Fig. 3). None of the other viscera were affected, so far as was determined by the post-mortem examination.

CASE VII. *Cysto-sarcoma of Gluteal Region and Lungs.*—N. Y— , aged twenty-four, male; teacher; was admitted to hospital June 2, 1877. About four months previous to admission the patient noticed a small lump below the crest of the right ilium. The tumor, which had grown to the size of a cocoanut, was removed by operation, but recurred twice in close succession, and in November of the same year, about nine months after the first tumor was noted, the lungs became involved. There was high fever, rapid respiration, and pain in the right side, suggestive of lobar pneumonia. On physical examination bronchial breathing and voice were noted over the lower lobe of the right lung, posteriorly. Dulness on both sides posteriorly, but most marked on the right. Temperature rose to 104° F. Sputa contain streaks of blood. The patient recovered in part from the pulmonary symptoms, but died of exhaustion about eleven months after the growth was first observed.

The sarcomatous growth infiltrated and distended the lower lobe of the right lung and the liver. The disease had originated in the crest of the ilium.

CASE VIII. *Sarcoma of Tibia, Lungs, and Spleen.*—H——, aged thirty-seven, widow; was admitted to hospital February 11, 1878, for tumor of the left tibia. A growth had previously been three times removed from the gluteal region within two years. On physical examination dulness was heard on the right side, with bronchial breathing. Absence of respiratory murmur. Patient died about twenty-eight months after the disease first appeared. At post-mortem examination both lungs were the seat of large sarcomatous nodules. The spleen was also involved.

CASE IX. *Post-peritoneal Sarcoma.* — H——, aged thirty-eight, clerk; was admitted to hospital November 19, 1882. Patient was feeling well until six weeks before admission, when he was seized with violent pains in the left hypochondrium, so severe as to cause faintness. The pain afterward moderated, but has continued without intermission. Pain is aching in character and increased by standing. Has had two attacks of præcordial pain, and has passed two clots of blood from the urethra. On physical examination a tumor was discovered in the epigastric region. Its upper border appeared to be adherent to the left lobe of the liver, extended an inch and a half below the umbilicus and three inches to the left of it; slightly to the right. Left epididymis appeared to contain a nodule. At times he vomited bloody matter. About three weeks after admission had copious hæmoptysis, and until death subsequent attacks of milder character. About seven weeks after admission there was found at the right apex loss of voice and prolonged respiration. No râles. Just before death there was pulmonary œdema. At post-mortem examination, a round, nodular mass the size of a cocoanut was found firmly attached to the lumbar vertebral column and extending to the left. Liver contained about ten secondary nodules, most of them projecting above its surface. On cross-section these nodules presented a mottled appearance, owing to excessive vascularity and recent hemorrhages; were soft and friable. They were not surrounded by a well marked capsule. The mass was attached to left kidney and ureter. Atrophy of kidney from pressure and dilatation of pelvis, owing to pressure on ureter. All lobes of both lungs studded with nodules of various sizes. Largest about the size of an English walnut. Bronchial tubes contained large quantities of bloody and frothy mucus. In small intestine one secondary nodule the size of a bean.

CASE X. *Melanotic Sarcoma of Left Thigh and Left Lung, Pleura, etc.* —M. D——, aged twenty-eight, widow; was admitted into hospital July 2, 1887, saying that three weeks before admission she had felt stitching pains in the left side. Slight dyspnœa.

On inspection of thorax, retraction and flattening of left chest, and bulging of the right. Left measures 17 inches; no expansion. Right measures 18; expansion, ¼ inch. Dulness over all of left lung; both bronchial breathing and voice at apex. No râles. Toward base diminished respiratory sounds and voice. At angle of scapula œgophony. Temperature, 100° F.; pulse, 100.

It was soon observed that the patient had a large immovable tumor of the upper and inner side of the left femur, causing great pain and obturator neuralgia. Diagnosis made of sarcoma of femur and lung.

Two months after admission further retraction of chest was found, both right and left measuring now only 16 inches. Area of dulness in left side complete posteriorly. Egophony at ninth space on right side. Voice and breathing present below ninth rib. On left side posteriorly there is bronchial voice and breathing, and a whistling expiration over the whole supra- and infra-spinous regions. In infra-scapular region the breathing is feeble; voice normal but feeble. Two inches above angle of scapula there is egophony. No râles. Anteriorly there is pulmonary resonance in left infra-clavicular space, with dulness in second and third interspace. Below this is tympanitic resonance. On right side there is dulness from fifth to eighth ribs.

Some months later the patient died of pulmonary œdema.

At post-mortem examination it was found that the left pleural cavity was obliterated by a mass of small growths varying in size from a walnut to a hen's egg. The inferior lobe of the left lung was the seat of one large tumor. The left lobe contained a few small tumors. The right lung exhibited a peduncular tumor on the surface.

In the left inguinal region was a growth the size of a man's fist, connected by a cord (lymphatic?) (which passed under Poupart's ligament) with a larger mass that was imbedded in the muscles of the thigh, and was joined with a third mass that lay close to the femur, but was not connected with it.

The last-named mass had a gritty feel, as if it contained fine sand; the other growths were soft and gelatinoid. On microscopical examination the gritty particles were found to consist of lime carbonates, but had no true bone-tissue in them. The tumor was classed under the melanotic sarcomas (Fig. 5).

CASE XI. *Sarcoma of Bones and Lungs.*—J. L——, aged twenty-two, laborer; was admitted to hospital for a tumor at the juncture of the upper and middle third of the humerus. The growth gave pain, but no glands were involved. The operation consisted in enucleation without amputation, but the disease returned, at first in the bone, later in the scapula, again in the cicatrix, and finally in the lungs. Death occurred from exhaustion, four years after the disease first made its appearance.

CASE XII. *Sarcoma of Breast and Lungs.* — M. H——, aged forty-three, female, was admitted to hospital in July, 1889, for a tumor of the breast. Five years previously she had noticed a hard lump just above the left nipple, and it gradually increased in vol-

ume until it softened and broke down in spots, sloughing and giving forth an offensive odor. On admission the tumor measured eighteen inches over greatest convexity. The operation was successful, though in the autumn a nodule appeared in the cicatrix, which in four months was as large as a child's head and connected to the body by a thick pedicle. Removal on March 4, 1881. Patient died in March, 1881. At autopsy the lungs were found to contain sarcomatous nodules varying in size from a pea to a horse chestnut. Similar tumors were also found in the inguinal region, and in the brain. Curiously, in the brain the cells of tumors were round, in the inguinal region spindle-shaped. Sometimes the recurrence is of this character, as I have already stated.

17 EAST FORTY FOURTH STREET.

REMARKS REGARDING STRICTURE OF THE URETHRA IN THE MALE.[1]

BY HOBART CHEESMAN, M.D.,

NEW YORK.

I DO not expect to entertain you with any new ideas, nor to add to your stock of knowledge, but although the subject is trite, it may furnish an interesting theme for discussion. If the past few years can be said to have witnessed an epoch in surgery in general, the remark would seem no less true of that part to which my subject refers, a result which, it appears to me, is due to Dr. Otis, more than to anyone else, at least in this country.

It matters little how Dr. Otis's efforts were first directed in the course he so confidently and persistently pursued. He is at last able to rest in the assurance that the principles he has taught are generally accepted, and their logical application to practice well worked out and widely in vogue. The results, surely, are such as reflect credit to the profession, which now, for the first time, counts this one among the few of the many ills of the flesh over which it confidently asserts its mastery.

Although he may sometimes have cut the urethra too much, and perchance mutilated the meatus, and have been guilty of other surgical faults here and there—perhaps insisted too much on the importance of spasm in deep stricture, yet the critic who can see nothing in the results of his teachings except such accidental errors, committed in developing and applying them, either does not care to do him justice, or else altogether fails to apprehend the true significance of his work.

It has seemed to me a worthy object of admiration, and a remarkable proof of the versatility of certain distinguished critics, and of their capacity to make the most of small opportunities, that it has been found possible to induce such an amount of service in the rôle of terrible example and in the awful part of medical bugbear, from the few unfortunates of this kind which have been constantly passed around the circle. Like the stage army, ten have become ten thousand by diligent marching around in grave and imposing file. Personally, I have happened in practice to meet with but very few mutilations of the meatus (and none of the urethra) from excessive cutting, and these were seemingly chargeable to excessive zeal on the part of apprentices rather than to Otisism proper.

We may better appreciate the work of Dr. Otis by reference to the state of the subject at the time he began it, comparing that with the present, and observing, at the same time, how development has followed the course he first indicated. Then stricture of the urethra was a stumbling-block—practically admitted as incurable; now no competent surgeon despairs of curing the very worst cases. What has led to this rapid and remarkable revolution?

One of the most important steps was to get definite knowledge of what constitutes stricture. This implied a preliminary understanding of the nature and size of the normal urethra. Sir Henry Thompson, in 1869, gave the following directions for exploration of the urethra for ascertaining the presence or absence of stricture: "A flexible bougie of medium size, that is, No. 7 to 9 of the English scale (16 to 18 French), is to be used, while as to form it should be slightly curved and blunt, not conical, at the point. If a small instrument is employed it might pass through the stricture without giving any sign of its existence, and so fail to detect it; but if a No. 8 bougie (17 French) passes easily into the bladder we may be satisfied that no stricture, or at most a very slight contraction, exists." Dr. Otis quoted this passage, in 1874, then recognizing and pointing out the errors, just as everyone recognizes them to-day.

Very naturally, strictures after treatment founded on such nebulous notions returned, or rather remained; for stricture does not recur, it remains. Dr. Otis began by ascertaining the calibre of the normal urethra, and a natural and sensible beginning it was. We are all now working approximately on the basis of his demonstrations, as a matter of fact, and find his rule for estimating the size of the urethra in particular cases sufficiently reliable for practical purposes. (Since reading this paper I have read the recent paper on stricture by Professor White, of the University of Pennsylvania, who, in referring to this point rather critically, concludes by recommending the following scale, and thus in the most emphatic way possible admits the essentials of Dr. Otis's teachings. He says: "The scale which I have adopted for use is as follows: A penis of three inches in circumference, at the middle of the spongy portion, indicates a urethra which should normally admit an instrument of about 26 to 28 mm. in size; when 3¼ inches, 28 to 30 mm.; 3½ inches, 30 to 32 mm.; 3¾ inches, 32 to 34 mm.; 4 inches, 34 to 36 mm., beyond which size it is seldom necessary to go." I do not think that Dr. Otis himself would cavil very much at this, and it seems to me to represent pretty accurately the prevailing criticism of his teachings—the deed affirms what the word denies. Compare these rules of Dr. White with those of Sir Henry Thompson quoted above, and the point is evident. The difference involves the potency of all important advances recently made in urethral surgery, as well as much that relates to the organs beyond. No more substantial evidence need be asked of the truth and potency of Dr. Otis's teachings than is found in Bigelow's operation of litholapaxy. The well-informed are now aware that the middle portion of the pendulous urethra is narrower than the other portions, with the exception of the isthmus and meatus perhaps, and that there are also normally minor undulatory variations, as first demonstrated by Sands and Weir; but we need not fail to make due allowance for all important and lately revised facts in explorations for stricture, in order not to detract from what is important in the teachings of Dr. Otis; facts easily explaining the difference between his and Dr. White's scale.) To resume: Dr. Otis, for the first time, made it possible to determine with accuracy the presence or absence of stricture, and to locate it with precision, and consequently to know just how much a cure in a given case implies—to know when a cure is effected and when not.

Although certain Frenchmen had already called attention to the influence of anterior stricture in producing deep spasmodic stricture, which latter condition they maintained had generally been mistaken for organic stricture, and in this way accounted for the large proportionate number of deep strictures which had, until then, been taught to exist; yet these ideas had not found much encouragement until Dr. Otis, recognizing their importance, proved and ably taught their validity, against much opposition, as is well known.

Organic stricture is now recognized, at least by many, as most frequent in the anterior urethra, where the causes producing it operate most frequently and most intensely.

[1] Read before the Manhattan Medical and Surgical Society, January 3, 1891.

Knowing now just what was involved, the way was clear for the first time for solving the problem of successful treatment. Dr. Otis early demonstrated the curability of organic stricture, inventing the instruments still regarded by many experienced surgeons as best adapted, and teaching their proper and skilful use. Others have no doubt largely contributed directly in working up to present conditions, as well as indirectly, in checking extravagant tendencies and correcting errors of various kinds and degrees liable to be committed under the circumstances. Still, whatever credit may be due others, Dr. Otis, I think, must be regarded as the man of the epoch. Had he not lighted and paved the way, perchance we still were grouping in the murk and mire of twenty years ago. Surely few will now be found, so unappreciative as longer to affect to ignore the importance of his influence, or so oblivious as honestly to protest while unconsciously guided and benefited by it. Each surgeon may have his own peculiar notions, and each may lean to some pet scheme of practice. But all in act, if not in word, now admit the controlling influence of his ideas, and any method of practice must be based largely upon them to complete successfully, although not necessarily following his in detail. Whether or not Dr. Otis accepts merited modifications and corrections of his teachings, or whether or not he follows the conservative rules of practice now in favor, with more facts and experience before us, is of no consequence, as effecting the large part he has had in bringing the issue.

The writer is convinced (with which most will presumably agree) that a very large majority of strictures can be cured by the method of gradual dilatation after all strictured tissue in the sensitive region at and near the meatus has been thoroughly divided. Without this preliminary operation, when indicated, attempts at gradual dilatation are about useless. The peculiar sensitiveness of this region probably accounts for this, attempts at stretching only exciting more irritation in the part and corresponding reflexes in the deep urethra. The region of the meatus we know is by far the most sensitive; the telegraphic centre, it has been called, of the genito-urinary system, which is in intimate nervous relations in more respects than one with the region of the deep urethra, the next most sensitive part. Possibly the sphincter element existing to a slight degree in the meatus, analogous to that of other discharging orifices, as for example, the anus and vagina, may increase its resistance to efforts at dilatation. Whatever the true theory may be, when all strictures or contractures in this region have been thoroughly divided, then, and then only, success in treatment is easily possible, in ordinary cases, by gradual dilatation.

The meatus is now acknowledged to have its proper and important function. This is to mould the stream of discharging urine to proper form, and to serve as a point of elastic resistance to the force behind, by which the stream may be projected to a convenient distance. The meatus, therefore, should not be mutilated so as to impair this function. This can always be avoided by subcutaneous incision of any stricture-tissue existing, the cutaneous orifice being divided only sufficiently to permit when healed its free expansion, by a forceful stream of urine, to a size equal to the full size of the stream capable of escaping through the normal membranous urethra. Conditions should be such as to permit free and unconcerned relaxation of the membranous urethra during the act of urination—a perfectly passive state. The active function of this and the prostatic urethra is normal retention, the muscular tissue being kept for this purpose in a state of tonic contraction. In voiding urine, so long as the stream in front of the isthmus finds a smooth and capacious channel and free vent at the meatus, all goes well. But whenever it encounters obstruction the impinging portion is deflected, and consequently interferes with the otherwise unhindered portion by throwing the whole stream into confusion, and thus only a small jet may escape through a stricture of considerable calibre. The normal urethra being a delicately pliable sheath, the portion behind an obstruction, situated anywhere in the penile portion, but most especially at the meatus, must be painfully distended and irritated by a stream flowing from the bladder with natural force and volume.

The membranous urethra alone is capable of preventing this, by contracting sufficiently to reduce the stream to the required limits, or rather, by holding itself suspended, suitably, between its naturally closed condition during normal retention, and its other natural state of unconcerned dilatation while the bladder is being emptied. But this act is an unnatural one, and the effort injurious to the parts, as may be witnessed by trying the experiment while voiding urine through a healthy urethra. The watchful readiness of the membranous urethra to protect, in this way, the inflamed or sensitive portions in front of it, may also be observed whenever concentrated and scalding urine is about to escape through a healthy urethra, in the reluctance and hesitation with which the stream is allowed to start, and in the tendency to shut it off when it reaches the tender region of the meatus. Such disturbances, long continued, must lead to confusion of function and result, at last, in organic changes. The signal for free relaxation, being now constantly associated also with efforts at contraction, perchance, at last ceases to excite any other, and then we have abnormal retention from spasmodic stricture. No doubt, also, in time the mucous membrane of the deep urethra may become inflamed, and consequently infiltrated with inflammatory products from this cause alone, resulting at last, possibly, in organic stricture. Extreme sensitiveness is not the only reason apparent why an obstruction at the meatus, more than elsewhere, is capable of irritating and consequently of exciting spasmodic stricture in the deep urethra. The meatus is situated farthest from the deep urethra, the capable source of protection without whose vigilant activity the whole penile urethra must be exposed to the full contracting force of the bladder, acting through the column of urine obstructed at the meatus. The effect of this will be better appreciated by recalling the law of physics, that pressure on a column of fluid is transmitted in every direction with a force equal to that applied to any portion of it. There is another kindred occurrence in this connection. Portions of the stream of urine impinge upon the mucous membrane covering the stricture behind, then being deflected, throw the whole current into confusion, and this, in addition to stretching, constantly irritates by friction, and might, I should think, lead to erosions and become an important factor in augmenting the already existing stricture. Thus the theory of this form of spasmodic stricture seems rational, and it is evident how stricture, or simple contracture, of the meatus may give rise to symptoms otherwise apparently disproportionate to the cause, even so remote sometimes as to go unrecognized until by removal of the cause the symptoms disappear. The importance becomes evident of thorough division, always, of strictures in the region of the meatus, as a preliminary and aid to the cure of those beyond.

Theoretically, the meatus requires enlargement whenever it does not easily dilate for the passage of a bulbous explorer, fit for the normal relaxed membranous urethra, in the given case It may be entirely free from inflammatory deposit, or thickening, and small from encroachment of its cutaneous substance only, most likely congenitally. On the other hand the orifice, on inspection, may appear of sufficient size, but oppose the passage of the full-sized explorer, because of inflammatory deposits, when instead of a thin, soft edge of tissue stretching over its bulb, there is apt to be present a more or less thickened ring, not easily stretched. Frequently stricture is found just within this portion, maybe, more or less continuous with it. Another very frequent site for stricture is at, or just beyond, the deep end of the fossa navicularis. These conditions may be found in various degrees, singly or combined. Besides being subject to congenital contracture, the meatus and contiguous urethra are exposed to a

greater variety and degree of influence liable to lead to inflammatory thickening than any other portion of the urethra. It is not surprising, then, that one should find very many meatuses requiring preliminary enlargement, in treating strictures, without necessarily meriting the odium of hobbist. I do not mean to be understood as claiming that every case, or even a majority of cases, require meatotomy, nor of those requiring it that very many excite spasmodic stricture; but that this is possible and more frequent and more important than is generally admitted.

Strictures found at or within an inch, or even more, of the meatus, are easily divided with a blunt-pointed bistoury, under local cocaine anæsthesia, although, as a matter of fact, more painful than the division of strictures farther down in the less sensitive parts, unless the latter be dense and extensive, necessitating painful stretching with the dilating urethrotome. This done, when indicated, most strictures met with in private and dispensary practice can be satisfactorily treated, as already remarked, by gradual dilatation; may be cured, and that too, more expeditiously than is believed by some. A comparatively few cases only have strictures so dense or extensive or so tight as to render this method ineffective. They are doubtless most frequently met in hospital wards. Wherever encountered, they are, I believe, best treated by the use of the dilating urethrotome, or this in conjunction with Maisonneuve's, if not deeper than the peno-scrotal junction; deeper than this, by external urethrotomy; unless the latter rather formidable operation for deep passable stricture shall soon be superseded by the simpler one of internal urethrotomy, combined with artificial drainage through the perineum, as practised by McBurney at Roosevelt. The gravest danger threatening from the deep internal operation, as first practised by Otis, arising from septic absorption, ought to be obviated by artificial drainage of the sagging segment of the wounded urethra, the anterior segment finding natural drainage by gravitation through the meatus, and the very deepest into the bladder. Of course it cannot take the place of external urethrotomy for impassable stricture, or for those through which Maisonneuve's guide cannot be made to go, nor for some cases of passable stricture complicated with abscess or extravasation of urine and the like.

But it has been my experience that strictures have a tendency to return after urethrotomy to their former state, to a greater or less degree, unless the passage of sounds is employed for a considerable time after the operation. The cutting appears to hasten the resolution, probably in a way analogous to that observed after operation on the hardened and hypertrophied tissue from old laceration of the cervix uteri. Dividing the stricture of the urethra does not alone, however, seem to insure the completion of the process, but several weeks' use of full-sized sounds is necessary, in most cases, to complete a permanent cure.

The following cases are selected to illustrate some of the points which have been dwelt upon:

Case I.– A student, aged twenty-one, denied having ever had any venereal disease, or sexual intercourse. For ten days had been suffering from an attack of bilious diarrhœa and occasional vomiting, accompanied by various nervous symptoms, such as pricking sensations over the body and cold and blue extremities, and at times chilly tremors in the back. During the last thirty-six hours had been unable to pass a drop of urine, while at stool even. The urine had been drawn by his physician through a soft-rubber catheter. The meatus admitted snugly a No. 20 French bulbous exploring bougie; looked rather red, but was without inflammatory thickening. A steel sound, No. 22 French, also passed into the bladder, being mildly grasped in passing through the membranous urethra. The urine was then readily drawn with a No. 20 French soft catheter, and subsequently found to be normal, except for the presence of a trace of albumin. The retention of urine continued unaffected, although all the usual means of relief in such cases were employed. At the end of ten days after first seeing the case, not a drop of urine having been passed except through the catheter, I incised the meatus so as to admit the passage of a No. 30 French bougie a boule, which could then also be passed to the membranous urethra and withdrawn without obstruction. The next day urine was voided, for the first time in three weeks, at stool, and on the second day it was being passed freely and regularly. The patient continued perfectly well from that time for two months, since when I have not seen him.

Case II.—Produce merchant, fifty-eight years of age. Had several attacks of gonorrhœa in youth. The last attack was twenty-five years ago, since which time he has always suffered more or less from gleet and frequent micturition, and passed a small stream accompanied at times with pain. During the past year has had to get up about every two hours at night to urinate, and during much of this period the act has been accomplished only after much straining and by driblets. This was his condition when first seen. Examination of the urine showed nothing abnormal except a moderate excess of mucus. No prostatic trouble could be detected. No. 22 French steel sound passed snugly through the meatus and six inches down, and was there arrested. No. 18 passed seven inches, but would go no farther. After many futile efforts to enter the bladder, finally a fine whalebone was manœuvered in by passing it down alongside of a No. 4 elastic bougie. Two days later the same efforts were made and with the same results, and a third time, after waiting two days longer, hot sitz-baths and the other conventional measures of relief having been employed all along. A No. 18 steel sound could be passed six inches easily, and urged an inch deeper, where it was firmly grasped and held, defying all efforts to get it further short of extreme violence. Attempts were made by several surgeons, but with the same result. The meatus was then incised so as to admit a 34 steel sound, Nos. 18, 22, 24, and finally 27 steel sounds then passed in succession into the bladder, after being held for a moment in the grasp of the membranous urethra. The next day Nos. 27 and 29 passed easily and entered the bladder, and the patient declared that he had urinated but twice during the night, instead of five or six times as previously. Ten days later No. 30 sound was being passed easily, although still slightly grasped in going through the membranous urethra. The patient had been voiding urine about once in four hours for several days. Passed in my presence, the stream was normal in all respects—full, strong, and uninterrupted. He remained under observation for six weeks more, and had no further trouble.

Case III.—An out-of-town drygoods merchant, aged forty-eight, denied all venereal diseases; came with a note from a neurologist who stated that he had been treating the patient for neurasthenia, but had concluded that probably the origin of his trouble was in the urethra. His symptoms were insomnia, occipital headache, pain in the back of the neck and lumbar region, of dull heavy character; also sciatica, pain in the perineum, and on micturition, especially at the neck of the bladder and at the head of the penis. He suffered from frequent micturition, also passed a small and feeble stream; felt weak and tired all the time. He was married, but had not been able to have sexual intercourse for two years, not even an erection; had no nocturnal emissions, but every few days he passed a large quantity of what appeared to be seminal fluid while straining at stool, which was sometimes bloody. Pain in and about the anus caused him to imagine that he had internal piles, but this did not prove to be the case, nor did the prostate prove to be enlarged, although pressure over the region caused pain. The penis corresponded in size to an urethra of 32 French calibre, but appeared pale and lifeless. The meatus admitted No. 24 French, was red and pouting and very sensitive, as was the whole urethra, a rather soft gum elastic bougie causing much pain, especially in passing the deep urethra, and considerable bleeding from this region, although used with the utmost gentleness.

The meatus was cut to full size, and in a few days, when it had healed somewhat, exploration of the urethra revealed no obstruction beyond. Through Sturgis's short endoscope the urethra appeared abnormally red all the way down, and in the deep parts a granular condition was seen, bleeding easily. By means of a cotton applicator, nitrate of silver, twenty grains to the ounce of water, was applied to these granulations. Two days later, and from that time onward for three weeks, steel sounds were passed into the bladder every two days. At the end of this time a 32 French sound was being used, causing not much unusual pain, and no more bleeding, and the urine was being voided less frequently and in a good stream. The insomnia and other nervous symptoms had abated. He was, for the first time in two years, having erections in the morning, and had ceased to have seminal discharges while straining at stool. He was obliged on account of business to return home at this time, and to the care of his former physician, who was to continue the use of sounds. I see no reason why he should not have got entirely well under this treatment, and I am not sure that he might not have recovered in time after the stricture of the meatus had been cured, without any other local treatment, believing as I do, that this was the original cause of all the trouble.

CASE IV.—A commercial traveller, aged thirty, married. Had several attacks of gonorrhœa, the last one six years ago. Had suffered from gleety discharge and other symptoms of stricture ever since. Had been treated for it in London and in this city, without permanent benefit. He was worse than ever before, suffering from painful and difficult micturition, being obliged much of the time to strain out the contents of his bladder in driblets. Rest at night was broken, and he looked anxious and exhausted, and declared himself unable to attend to business properly.

The lips of the meatus were thickened and red, the orifice was contracted, there was stricture behind it all along the first inch, and at three and a half inches a hard, nodular enlargement of the urethra, which permitted with difficulty the passage of a 15 French steel sound. There were other minor strictures. The strictures at and near the meatus were divided with the bistoury, the largest sound possible was passed through the nodular stricture, at three and one-half inches, which was then manipulated gently for two or three minutes over the sound so as to stretch the stricture. This operation was repeated every two or three days at first. At the end of six weeks the nodules had entirely disappeared, and at the end of ten weeks a number 32 French sound was being passed into the bladder, and the bulbous explorer detected no stricture anywhere. At the end of three months the patient was discharged cured, and has continued so for more than two years, without the use of sounds, except on two or three occasions, when one has been passed only to detect any signs of recurrence, but none has appeared. This was a case in the beginning which might have been very rationally regarded as requiring urethrotomy, but the result shows the possibilities of gradual dilatation when practised persistently after free division of strictures at and near the meatus. The patient stated that in several former attempts at gradual dilatation which he had at different times submitted to for long periods, the strictures at the meatus had not been incised, but that the attempt had been made to dilate them with those farther down, the result being as described above, no more than very temporary relief.

Conclusions.—1. Dr. Otis has been the controlling spirit in urethral surgery in this country during the epoch.

2. Its present issue is the legitimate result of the development of his ideas, largely directed and impelled by his personal efforts.

3. His scale of urethral calibre, modified to suit local variations, is approximately true and a reliable practical guide in detecting stricture.

4. His teachings respecting stricture at the meatus and spasmodic stricture of the deep urethra contain important truth, not safely ignored in practice.

5. As encountered in ordinary practice, stricture is much the most frequent in the penile urethra, where the causes producing it operate most frequently and intensely.

6. A large majority of strictures can be satisfactorily treated by gradual dilatation, combined with meatotomy when indicated, including in this term division of all coarctations within the first inch of the urethra.

7. Meatotomy is indicated when the orifice is smaller than the normal calibre of the membranous urethra in the given case, or when it is inelastic.

8. Smallness of calibre of stricture alone does not render urethrotomy necessary. On the contrary, any passable stricture of soft and yielding character, except at the meatus, may be cured by gradual dilatation; but when strictures are dense or very extensive, or stubbornly resistant from any cause, urethrotomy is indicated, and may be justified in many cases capable of dilatation, in which to save time is important.

9. Internal urethrotomy should be employed in front of the peno-scrotal junction, and not beyond this point, unless the sagging segment of the urethra be provided with artificial drawage; otherwise the external operation should be performed.

10. Impassable stricture and certain complicated passable ones necessitate the latter operation.

11. The use of sounds is required for a considerable time after urethrotomy to insure complete cure.

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DRAINAGE IN ABDOMINAL SURGERY.[1]

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MR. PRESIDENT AND FELLOWS OF THE ACADEMY: In beginning this paper I wish to express to the Fellows of the Academy my appreciation of the courtesy extended to me in the invitation to discuss before you so important a subject as that of drainage in laparotomy. Within the limits of a short paper it will be impossible to cite statistics or quote surgical opinions. It may not, therefore, be improper to say that the opinions here expressed are the product of repeated opportunities of observing the methods employed by many of the most noted operators, both of this country and of Europe, together with the author's personal experience. The subject will be discussed under three heads:

I. Is drainage of the abdomen after operation ever desirable?

II. If desirable, in what cases should it be employed?

III. When employed, what method should be used?

In discussing the first proposition, it is not impossible that the same principles which hold good in the treatment of wounds in general may be found true of wounds in the abdominal cavity. To my mind the principal factors in securing union of wounded surfaces are: 1. That they should be aseptic. 2. That they should be brought into and preserved in close apposition. 3. That the accumulation of secretions between these surfaces, and their consequent separation should be prevented.

That wounds should be preserved aseptic is a proposition which will be accepted by all, and demands no consideration.

That wounds should be kept in close apposition is a proposition equally accepted, but often it is not put into practice. In the amputation of extremities, and in the extirpation of mammary tumors, it was formerly almost the universal practice to insert drainage-tubes. I presume in these and all kindred operations the use of the drain-

[1] Read before the Section in Surgery of the New York Academy of Medicine, May 11, 1891.

age-tube has greatly diminished. For my own part, I very rarely use it, seeking, in amputation of the breast and of the limbs, to stop all oozing before closing the wound, to keep it strongly pressed together during the insertion of sutures and applications of dressings, and by the pressure of the dressing so to hold the surfaces in apposition as to obviate the collection of secretions. By this method the rule is to secure union by first intention, without the drainage-tube. The same conditions exist to a degree in the abdomen which are present in other wounds. That there is considerable pressure within the abdominal cavity, and that its surfaces come into close contact, is, I think, evidenced by the fact that in attempting to insert the hand into the abdomen, especially if the anæsthesia is not complete, the omentum and the intes tines insert themselves between and separate the fingers in spite of the operator's strongest efforts to prevent it. In operations for perityphlitis I have opened abscesses reaching from Poupart's ligament to the liver, containing large quantities of pus, washed them, and packed them with gauze, and have been surprised at the first dressing to find the degree to which the intra-abdominal pressure had tended to extrude the dressing, and the small amount of packing which could be reinserted. Notwithstanding, however, the close apposition which exists between the abdominal viscera, on account of the intra-abdominal pressure produced by the tonicity of the abdominal wall and the distention of the intestines by gas, accumulations of fluid take place in the abdominal cavity. A common instance of this is ascites. In operating for stabs of the abdomen, I have removed large quantities of blood from the abdominal cavity coming from wounds of the internal epigastric artery. Doubtless after laparotomy fluids may collect in the abdominal cavity in spite of the apposition of surfaces and the existing pressure; but I strongly suspect that this occurs chiefly where there is bleeding from vessels of some size, or where the pre-existing condition of the peritoneum is such as favors the pouring out of fluid. My observation would lead me to doubt whether the collection of fluid is, as a rule, great under other circumstances, unless sepsis be present or strong antiseptic solutions be employed. While, on the one hand, it must be acknowledged that by apposition and pressure we cannot escape the collection of fluids in the abdominal cavity to the degree which may be done in wounds more subject to pressure; on the other hand, the lining membrane of the abdomen is especially able by its power of absorbing fluids, to care for and remove accumulating secretions. That the peritoneum is able to absorb fluids is shown by the disappearance of ascites, and by the disappearance of fluids, which can be demonstrated to collect at times in connection with strangulated hernia. In cases of intestinal obstruction, where immediate operation has been declined, I have been able to demonstrate the presence of considerable quantities of free fluid, and a day or two latter, when the operation has finally been undertaken, have found that this has entirely disappeared, with nothing but plastic lymph gluing together the intestines remaining. The same ability of the peritoneum to absorb fluid has been demonstrated by injections made into its cavity.

If, then, there are certain forces tending to restrict the accumulation of fluid in the abdominal cavity, and there is also a well-marked force for removing such accumula tions when they occur, the question arises, What fluids may safely be left in the abdominal cavity to be cared for by natural means, and what ones must be artificially removed?

Those fluids which can be safely left to care for themselves, it seems to me, are, 1, serous oozing from wounded surfaces, and 2, small amounts of blood collecting from the same sources. Those which would be dangerous to leave are, 1, large amounts of blood, and 2, septic or infectious material.

That collections of serum are readily absorbed from the abdominal cavity is unquestionable. I believe the same to be true of small collections of blood. It is difficult to demonstrate this in the abdominal cavity, but if it occurs elsewhere it is reasonable to suppose that it may take place here. When an assistant in the Massachusetts General Hospital, I saw a case of secondary hemorrhage of the femoral after amputation, on account of the early absorption of too slender cat-gut. When the wound was torn open it was found aseptic and containing a large clot, almost entirely separating the flaps, but undergoing organization. All of us have seen healing by Schede's blood clot. In tuberculosis of the extremity of the femur I have removed the entire interior of the epiphysis excepting the bony shell of its exterior. packed it with iodoform gauze, a few days later irritated the interior of the bony cavity so that it has bled sufficiently to fill this cavity, covered the opening into the bone with a small piece of oiled silk, dressed the whole with a permanent antiseptic dressing, and seen complete closure of the wound without a drop of secretion and with entire restoration of function of the knee. If this can occur in an amputated extremity, and in the interior of bone, I see no reason why the same cannot take place in the abdominal cavity. Beyond question, however, the leaving of large amounts of blood to become organized is fraught with danger, since blood-clots seem particularly susceptible to infection and decomposition; also patients weakened by the loss of blood have less power to resist a slight degree of infection, which they might do under more favorable circumstances. While on the one hand the leaving of large amounts of blood in the abdominal cavity is to be deprecated as a source of danger, I doubt if small amounts are of so serious consequence as some have believed, provided there is no infection.

The question now arises, Have we means of drainage which are efficient in removing fluids which may collect in the abdominal cavity? Experiments made upon dogs and cadavers would indicate that fluids injected into the abdomen, through tubes placed in the pelvis, are not drained away by the same. I have repeatedly thrown fluid into glass drainage-tubes placed in the abdominal cavity, in dressing cases after laparotomy, and found that it did not distribute itself, but remained at a constant level in the tube. Personally, I have been surprised in many cases where I have used the drainage-tube to find how small an amount of fluid escaped from it. Doubtless there are cases in which the amount of fluid drained away from the abdomen is very great. Ten or twelve years ago I remember Thomas Keith, of Edinburgh, showing me many quarts of fluid which had been removed from the abdomen, by drainage, after laparotomy. I have performed laparotomy in a case of ascites, where no cause for the collection of fluid could be found, and where the woman recovered rapidly from the operation and was sent home, and remained to all appearances well for several months; where, at the expiration of this time, the abdomen again became distended by fluid, opened itself at the umbilicus, and discharged a large patent pailful of serum—to heal up again by the simple application of a pad of cotton by means of adhesive plaster. Though I cannot demonstrate it to be a fact, I strongly suspect that cases in which large amounts of serum have been removed by the drainage-tube are those in which there was a tendency of this fluid to accumulate before the operation, and that the fluid is not the product of divided adhesions.

Cases in which Drainage should be Employed.—To pass, then, to the second part of our paper: In what cases shall drainage be employed? Evidently it will be impossible to discuss all conditions which may arise. We may, however, discuss those which are most common. Perhaps this can be done most rapidly by citing briefly, in connection with some of these conditions, a few cases.

The abdominal cavity should, we believe, be drained, 1, *in septic peritonitis*. Wherever found, septic matter should be removed, and this is nowhere truer than in the abdominal cavity. In a case of universal septic peritonitis in a sporting woman, I found pus bathing the coils

of intestine in every part, and extending from the cavity of the pelvis to the liver, the stomach, and the spleen. The abdomen was opened widely, washed thoroughly, and all pockets of pus sought out, cleansed, and a drainage-tube was carried from the abdominal wound down through the vagina. In separating the adhesions, in the region of the cæcum, a hole was torn in the ascending colon, from which there was no escape of material until about three days after the operation. Then from two to three quarts of pus and fæces were washed from the abdominal cavity twice daily, through the medium incision which had been left open. The woman completely recovered, and is to-day plying her former vocation, a picture of health, notwithstanding a very minute fecal fistula. That this and similar cases of septic peritonitis must be treated by drainage, in whatever way and direction may be requisite for its perfection, seems to me beyond question, whether such drainage be ventral, vaginal, or lumbar.

2. *In gunshot wounds* drainage is rarely indicated. In the few cases that I have seen, I have been surprised at the small amount of extravasated fecal material, even when the lumen of the gut was largely destroyed. It seems to me in these cases all that can be accomplished will be gained by thoroughly cleansing the abdominal cavity without drainage, for it will be difficult by any arrangement of drain, unless it be the tampon of Mickulicz, to procure drainage in these cases.

3. *Tubercular peritonitis* presents itself under various forms and may be operated at various stages. In some cases where the accumulation of fluid has been general, and the operation has been early, recovery has resulted from opening the abdomen, removing the fluid, and closing of the incision after having perhaps washed the cavity or dusted its surfaces with iodoform. Where I have adopted this plan, on the removal of the sutures closing the abdomen there has, however, been a discharge of reaccumulated fluid. In other cases I have found the fluid produced by the tubercular process to be contained in a cavity occupying the pelvis and the lower part of the abdomen and shut off from the upper portion of the abdomen by adhesions among the intestines, and in these cases I have washed, cleansed, and drained, and I cannot imagine that such cavities can be successfully treated in any other method than by drainage.

4. *Operations for Perityphlitis.*—Where pus is present, and where adhesive inflammations have prevented its invasion of the general peritoneal cavity drainage is of course in place. Where the infection has generalized itself over the abdomen, treatment must be the same as for septic peritonitis from other causes, and that thorough cleansing and drainage are indicated.

5. *Intestinal obstruction*, whether the result of volvulus, adhesions, or constricting bands, is, in early stages, often accompanied by the effusion of serum. Later this disappears, becomes absorbed, and there remains plastic lymph, gluing together the intestines. If operation takes place early in these cases, it is my belief that the serum is not septic and does not require drainage. The condition changes to a septic one as time advances, and if at this time the patient can endure the shock of operation, it must be accompanied by the removal of the septic material. To illustrate my meaning: I operated upon a case of intestinal obstruction thirty-six hours after its commencement, and found the case to be caused by a Meckel's diverticulum. The abdomen was filled with serum. This was washed out, but not drained, and the patient's recovery was rapid and complete. As before stated, in strangulated hernia I have repeatedly returned the gut, removed considerable amount of serum from the abdominal cavity without washing or drainage, and recovery has resulted. In other cases, where I have been called long distances into the country, and have operated very late in cases of intestinal obstruction, I have found no fluid, but the presence of plastic lymph, and with it evidences of infection. In such cases patients have died in spite of my best efforts to save them. In other cases where operation has been declined until late, I have been able to demonstrate, early in the case, the presence of free fluid in the abdominal cavity (at which time I believe operation could have been successfully undertaken), to find later, when operation was finally consented to, that this fluid had disappeared and its place been taken by plastic lymph. Although I have not seen enough of these cases to reach a definite conclusion, the impression has grown upon me that in an early stage, when free fluid is present in the abdominal cavity, they are favorable for operation, and this fluid is not septic and does not need to be drained away; whereas, later, when the fluid has disappeared, there is a deposit of plastic lymph, with adhesions and infection, rendering operation more dangerous and drainage important.

6. *Hemorrhage.*—When this occurs in considerable quantities, and cannot be controlled, it is doubtless best that it should be removed. It is my impression, however, that it is best to take good care that much hemorrhage does not occur, than to seek to escape its dangers by drainage. When it is suspected, I would prefer not to content myself with an incision which will simply admit two fingers, to work in the dark, not seeing what is being done, but to enlarge the incision, seek out the points of hemorrhage, tie the blood-vessels, or, where more convenient, control them by means of a continuous catgut suture. It is my experience that troublesome and deep hemorrhage may be admirably controlled by the continuous catgut suture, and cases must be few indeed which are not amenable to this treatment. I am not one of those who believe that a small abdominal incision is of primary importance in laparotomy. That it is desirable is readily admitted; but knowledge of what is taking place in the abdominal cavity, and certainty of the manipulations of the operator, in dangerous and uncertain conditions, seem to me to be of superior importance.

7. *Extra-uterine Pregnancy.*—In operations for this condition there are cases in which it is impossible to control bleeding, and in which drainage is important. If the operation is upon the tube, which has just ruptured, or is still intact, and the tube and blood can be thoroughly removed, drainage may or may not be employed, according to the completeness of the operation. But there are many cases in which the products of the extra uterine fœtation cannot be completely removed, or in which the removal of the adherent placenta would be unwise, in which drainage must be employed.

8. *Adhesions.*—It is my belief that divided adhesions do not furnish in themselves cause for drainage. Uncontrolled hemorrhage is, as has been stated, a cause for drainage, but not the adhesions in themselves. In some cases of ovarian tumors of enormous size, where the adhesions have been universal and dense, and where their division has been accompanied by extensive hemorrhage, I have tied all bleeding points, at times applying cloths wrung out with hot water, well up to the base of the mesentery in the lumbar region, have closed the abdomen without drainage, and seen the cases make a complete and uninterrupted recovery.

9. *The Escape of Cyst Contents into the Abdominal Cavity.*—When this occurs, and is infectious, no precaution for its removal can be too great, and in addition to washing, drainage is doubtless in place. In other cysts I do not believe this necessity exists. The contents of simple ovarian cysts seem to be innoxious. I have had a large amount of fluid from a cyst of the pancreas escape into the abdomen, which has been removed by washing without drainage, in which recovery has resulted.

10. *Pyosalpinx.*—Perhaps opinion will differ more with reference to the drainage-tube in this than in any other disease. It is claimed by some that the pus contained in the Fallopian tubes varies in character, and that many cases are slightly infectious to the abdominal cavity. Until we know more, however, concerning the character of pus and the cultivation and propagation of various forms

of bacteria, we would be wise to act upon the supposition that all pus is infectious. If pus-tubes can be removed without rupture, and the uterine extremity of the tube be disinfected, or seared by actual cautery, I should consider drainage unnecessary. If, on the other hand, pus escapes, or we are uncertain as to infection, or if a part of the ruptured tube should remain, it would be wise to drain, our hope being that by drainage we may remove not only infectious material, but also the fluid which would form the best nidus for its propagation. The field of operation, too, is especially susceptible to drainage in these cases.

11. *Pelvic Abscesses.*—In this condition not only should the pus be removed at the time of operation, but the escape of that which forms subsequently should be secured by means of drainage

The third part of our paper, namely, what method of drainage shall be employed, will demand but few words. Vaginal drainage, which has been much employed, is now largely discarded. The two methods now generally used are the drainage tubes placed in the abdominal incision and the tampon of Mickulicz. The former is of more universal application, being especially fitted to prevent the accumulation of fluid in the pelvis. The Mickulicz tampon is especially effective for those cases where localized septic infection takes place, as in pelvic abscess, ruptured pyosalpinx with incomplete removal, and advanced extra-uterine pregnancy.

In conclusion, I would say that the ideal laparotomy is that which closes at once the abdominal cavity. Anything which prevents this subjects the cavity to possible subsequent infection. Advance must be looked for in methods which will obviate the necessity of drainage.

INOCULATION OF A JAPANESE WITH SCARLET-FEVER GERMS.

An Attempt to Obtain a Modified Lymph to Prevent Scarlet Fever in the Caucasian.

By A. S. ASHMEAD, M.D.,

NEW YORK.

On May 17th I inoculated with scarlet-fever germs a native of Nagano-Ken, Japan, aged twenty-four, three years resident in this country. There was no family history of syphilis or leprosy. The germs were taken from the desquamations on the forearm and palm of a German child, aged two years and three months, a patient of Dr. Ernest F. Ruppe. I took them on the twenty-fifth day, pursuant to a suggestion of Professor Edington, of Edinburgh. They were inserted in the left forearm. The results were as follows:

May 18th and 19th.—Headache of slight intensity; an inflamed zone about the insertion.

May 20th.—Areola of intense scarlet ⅜-inch in width, completely encircled a central crust; throat and fauces very red, tongue swollen and coated, no enlarged tonsils, four serous vesicles, not of the same size, and of irregular shape, at the edge of the crust, between the latter and the areola; skin swollen about the sore; pulse, 76; temperature, 99° F.; pain and itching.

May 21st.—Vesicles drying, crust darker and enlarged, much oozing of lymph; crust elevating; uvula and fauces intensely red; pulse and temperature normal.

May 22d.—The areola still persists, much lymph oozing, much pain; no enlarged lymphatics; fauces still red; temperature, 99° F.; pulse normal.

May 23d.—Areola continues; lymph welling up beneath the crust; crust enlarged and elevating; lymph abundant, of a lighter color than before; temperature, 99° F.; pulse normal.

May 24th.—Areola still persists; a little pus, lymph plentiful, crust increased in size; pulse and temperature normal.

May 25th.—Areola desquamating; crust contracting; inflammation lessened; the redness of throat increased; tonsils enlarged, white patches on both of them; headache; the patient thinks he has caught a cold; pulse, 83; temperature, 99.5° F.

May 26th.—Areola desquamating; crust has dropped off, leaving healing surface beneath, without ulceration; mouth and fauces highly inflamed; tonsils very much enlarged, with white patches; no headache; pulse, 88; temperature, 99.5° F.

May 27th.—Areola desquamating; lymph still forming and drying on the sore; fauces intensely red; tonsillar enlargement diminishing; pulse, 88; temperature, 99 8° F.

May 28th.—Areola still desquamating; formation of a second crust; much itching with pain at night; throat intensely red, tonsils inflamed but diminished in size; pulse and temperature normal.

May 29th.—Areola still present; second crust still forming; tonsils and throat still inflamed; pulse, 80; no temperature.

May 30th.—Areola present, its redness fading; desquamation going on, second crust flaking off; throat and fauces red and inflamed; tonsils diminished in size; pulse and temperature normal.

May 31st.—Areola disappearing; throat still sore; all inflammation diminishing; pulse and temperature normal.

June 1st.—Areola almost faded; throat and tonsils slightly red; no inflammation; pulse and temperature normal.

At this point am I justified in saying that here, for the second time, I have inoculated a Japanese adult with scarlet-fever germs without producing the Caucasian scarlet fever. In my first attempt my germs had been obtained on the tenth day of the disease, probably too early, for, as I have already mentioned, Dr. Edington says that the most virulent period of desquamation lies between the twenty-fifth and thirtieth day. In this second attempt I have produced a condition which may or may not be a modification of the disease, but certainly is not the disease itself.

This case was exhibited, on the sixth day after inoculation, to Drs. Lester and Wolff, at the Willard Parker Scarlet Fever Hospital. I gave Dr. Lester some of the lymph from the arm. On the seventh day after inoculation the case was exhibited at the Hoagland Laboratory, in Brooklyn, to Drs. Bristow, Van Cott, and Dickinson. Dr. A. T. Bristow received various products for bacteriological culture, namely, blood from the areola, lymph from beneath the crust, and specimens of the crust itself. I have since left with Dr. Edson, Chief of Contagious Diseases Bureau, New York Board of Health, and Dr. Lester, portions of the crust. I intend to inoculate this case again with scarlet-fever germs, obtained as before, and note whether the same results will follow.

I may observe that, during the whole time of the experiment the patient was in continual relation with my own children, without any contagion taking place.

I have a half-breed child (Japanese and American), aged four, a foundling, whom I intended to inoculate with pure scarlet-fever virus. Dr. Joseph William Stickler, whose investigations in this line are well known, wrote to me in regard to this case: "I do not consider it safe to do such a thing, unless you are certain that the virus has been attenuated in strength to a degree that will render it a safe agent to use; you cannot tell prior to inoculation just how susceptible your subject may be. Hence the impression made upon the system may be very severe, or very moderate. It may be severe enough to cause death."

I therefore do not feel justified in making this attempt. But perhaps the presumably attenuated virus obtained from my Japanese subject may be used with safety.

The Kirkendall Japanese scarlet fever case, at Ithaca, and another case also in an adult, mentioned to me by Dr. Lester as having occurred several years

ago at North Brothers Island, in this city, are the only Japanese cases of the disease of which I have any knowledge. Dr. Lester informs me that there was no doubt as to the genuineness of the disease in the case which he saw. Professor James Law has written to me, on the subject of the case which occurred at Cornell University, the following letter:

"I had intended furnishing you with further particulars of the case of scarlet fever in a native of Japan, but delayed because of his protracted illness, and finally because of Dr. Kirkendall's letter. There are still some points not referred to in that letter which I think will interest you, and I shall note them so far as they have come to my knowledge.

"1. In the same house there were two cases of 'bilious' fever some time before (during last fall), and at the present time there is a case of 'tonsillitis.' The street has no drainage, and the inhabitants are confined to well-water from shallow wells, and open to grave suspicion.

"2. While it is needless to raise the question of the source of infection, when the person has been daily mingling with large numbers in public buildings, yet it may be noted that a Japanese friend of the patient had come to Ithaca to lecture, had stayed and slept with Mr. T——, and that while the two were driving near the lake the latter suffered much from cold, or had a slight chill. The friend stayed in Ithaca three days, and immediately after he left Mr. T—— was seized with the fever.

"3. The symptoms were on the whole typical: languor, prostration, headache, nausea, vomiting, high temperature, and scarlet eruption on the mouth, throat, and extensively on the skin. The urine proved albuminous, but there was at no time any indication of œdema. The affection of the throat and nose was very severe and protracted, the surface becoming raw and the expectoration largely mixed with blood. The desquamation was protracted and very extensive, the cuticle coming off from the palms and soles in unbroken sheets. Recovery was very slow and attended with great prostration and debility, the patient being confined to his room for nine weeks. Up to the present date, four months after the onset of the fever, he has not recovered his strength, and is now suffering from rheumatism.

"4. Two inmates of the house—an adult who had had 'bilious' fever last fall, and a boy, aged twelve, were removed, but the boy returned in a week, and the adult during the advanced convalescence of Mr. T——, and escaped the fever, though neither had suffered from it previously. Three students (Americans) who had not had scarlatina, and who were in the room assisting Mr. T—— during the period of nausea and vomiting (the first day of illness), were removed from the house and all escaped the fever. Mrs. W——, who believes she never had scarlatina, but who had attended her children when suffering from that disease, assisted in nursing Mr. T—— from first to last, and escaped. Two Japanese visited Mr. T—— frequently during the whole course of his illness, and showed no sign of illness.

"In connection with the immunity of the presumably susceptible Americans, it should be stated that inunctions on the skin constituted a prominent feature of the treatment. The expectorations were received in paper napkins and promptly burned.

"I have learned that Mrs. W——'s son, who had had scarlatina and who was much with Mr. T—— during his illness, afterward went to live with his aunt, and a young man in her house was attacked with scarlatina a few days later. The aunt's own children had had scarlatina a year ago, and her house was afterward thoroughly fumigated. The fact that the patient in her house showed no sign of illness for months until after the coming of Mrs. W——'s son, who had been with Mr. T—— (the Japanese), is strongly suggestive that the infection was carried from that source.

"This case of Mr. T—— seems to imply that we can educate the Japanese in other matters than are embraced in the regular curriculum, and yet the demonstration would have been more perfect had there been other cases more indisputably infected from him. If it was an instance of acquired susceptibility, it seems remarkable that it should have proved so severe, and that his compatriots, who had also had an American seasoning, should have visited him freely without any ill consequence."

In leaving this subject for the present, I feel bound to say that perhaps, after all, there is, in regard to scarlet fever, a degree of similitude between contemporary Japan and mediæval Europe, as Professor Alfred Stillé suggests in the following lines, which I extract from a letter with which he recently honored me: "Will you permit me to suggest that a different explanation may be found than that you propose, viz., that Japan has, until very recently, been segregated from other countries, and that a similar segregation appears to be the reason why the eruptive diseases of Arabia and the farther Orient were unknown in Greece and Rome, and, indeed, in nearly all of Europe until the time of the Crusades. Measles and scarlet fever were often confounded, but neither appeared in Europe until the period above mentioned."

NOTE.—Since putting the last touches to this article I received a letter from Dr. K. Takaki, F.R.C.S. Eng., Surgeon-General of the Japanese Navy, and Chief of the Charity Hospital in Tokio, in which the author, referring to my subject, remarks: "The scarlet fever has been almost unknown to us before, but about eight years ago I have seen a case in a boy fourteen years of age, among the servants of an English gentleman, and last year four cases, a lady thirty seven years of age, which was followed by nephritis; two children of my wife's fourth sister, one of them with nephritis; and at last my daughter. The symptoms of all were quite typical. This year three children of my wife's third sister have suffered from the disease at the same time. Judging by the light of these facts, I cannot say that the Japanese have an immunity, but it must be said that the disease is not so infectious among the Japanese as it is among the foreigners. On this question Dr. Baelz, Professor of Medicine at the Tokio University Hospital, entirely agrees with me."

If we consider that almost all the cases here quoted occurred in the writer's own family, and that his hospital, which I know to be one of the largest in the Empire, having been myself for two years its Foreign Medical Director, furnished him, if any, only two cases, it will appear that scarlatina is rare indeed in Japan.

4 KING STREET.

Mortality of Foundlings.—According to the Austrian Statistical Handbook, published in 1888, the total number of foundlings in Austria reported for 1886 was 42,877, of whom 5,615 died, or 13.09 per cent. of those retained in hospital, 6.71 per cent died, and of those sent outside to the country nearly fifteen per cent. died; the averages for the years 1882 to 1885, inclusive, show about the same as those given for 1886, the presumption also being that many sent from town died, but, having been lost sight of, the death did not figure on the records of the institution. As compared with the official statistics of foundling mortality in Paris, the difference is surprising. There were in Paris, in 1874, 2,171 foundlings, of whom about thirty-five per cent, or 758, died within twelve months; in 1875, 1,720 foundlings, of whom some forty per cent., or 694, died within twelve months; in 1876, 1,648 foundlings, of whom about 34½ per cent., or 568, died within twelve months; in 1877, 1,493 foundlings, of whom about thirty-six per cent., or 540, died within twelve months; in 1878, 1,880 foundlings, of whom about thirty-four per cent., or 643, died within twelve months; and of those who succumbed during this series of years, from thirty-six to forty eight per cent. in the different years died in the first seven days.

MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE NEED OF A NEW CRUSADE.

ACCORDING to the cable reports the pilgrims at Mecca are suffering severely from the ravages of cholera, and, what is of far more serious import, the survivors in returning are scattering the germs of the disease throughout every Moslem country. Could the scourge be confined to Mecca and Medina, where no Giaour is allowed to enter, it would be a subject of purely philanthropic interest, and Europeans might look on with selfish unconcern; but unfortunately this is impossible. After the festival in the Holy City is ended the worshippers scatter to the four points of the compass, and carry with them to the very confines of the Mohammedan world the seeds of disease and death. Thus it is that each recurring pilgrimage presents itself as a serious menace to the entire civilized world.

This danger threatens Europe annually, but this year it seems to be greater than usual. The festival of Kurban-Bairam occurred on July 17th, and simultaneously came the cholera. The disease appeared in Mecca about July 11th, with the arrival of the first batch of pilgrims, three cases being reported that day, and increased rapidly as the number of visitors grew larger. On the 13th the number of persons attacked was 33, on the 18th over 100, and on the following day no less than 360 pilgrims were prostrated with the disease. This rapid increase in the number of cases is probably effected through the *zem-zem*, or holy water, which is doubtless a fairly pure culture of the comma bacillus, and which all drink as a part of the religious rites. The pilgrims also carry away bottles of this water to give to their friends at home, who were denied the privilege of making the journey. Could there be a more effectual mode of establishing new foci of the disease at distant points?

From all regions of Asia and Northern Africa the news comes of the progress of the scourge. It is reported to be greatly on the increase in the Hedjaz and Syria, and also in Aleppo, sixty-five deaths having been reported in the latter place on one day in August. Indeed, the disease is now diffused throughout the tableland of Asia Minor, and alarm is felt in all that part of Europe bordering on the Turkish possessions. The London *Standard* says that great consternation has been caused throughout Austria by the reports received there, respecting the terrible number of deaths from cholera in Asia and the rapid spread of the epidemic from Mecca to Northern Syria and the south coast of Asia Minor. The public concern is increased by the knowledge of the total inadequacy of the sanitary measures of the Turkish authorities. That the Turks are most anxious to keep the disease out of their European territories cannot be doubted; but the executive authorities, to whom all the measures proposed by the International Sanitary Board are intrusted, are so little to be relied upon, that neither the different cordons in Arabia nor the numerous quarantine stations that have been established are of any avail in checking the progress of the epidemic.

The sanitary condition of Mecca is simply shocking. But no Christian is allowed to enter the Sacred City, and the ignorance and fanaticism of the Mohammedans prevent any effective sanitary control by the local authorities. Burton tells us a little of what the condition of things there was at the time of his visit, and it is not likely that any improvement has taken place since. He tells of the sacrifices at Muna, when five or six thousand animals are slain and their bodies allowed to putrefy in the heat, not the slightest effort being taken to cover them with earth. Of course it would be a simple matter to inter all these bodies in holes or trenches, but, as Burton says, "the spirit of El Islam is opposed to these precautions of common sense. At Mecca, the headquarters of the faith, a desolating attack of cholera is preferred to the impiety of 'flying in the face of Providence,' and the folly of endeavoring to arrest inevitable decrees."

This threat of a cholera invasion presents itself to Europe year after year, now more and now less pressing, but recurring with the regularity of the pilgrimage itself, and it would seem as though it were time that the Western nations did something effective to protect themselves, since it has been demonstrated that the Turkish Government either can not or will not do anything. The Sultan, it is said, requested the International Sanitary Commission to take the necessary measures this summer to stop the epidemic, but the latter could do nothing in the face of the ignorance, venality, and prejudice of the authorities upon whom rests the duty of executing the recommendations of the Commission. It was proposed to send physicians to the infected districts, but the government would not provide for the payment of their salaries, so they have not been sent.

In a civilized community no individual is allowed to maintain a nuisance which imperils the health of his neighbor, and why should such a thing be allowed among nations? Since Turkey has confessed herself powerless to control her Arab subjects and to enforce upon them the observance of hygienic laws, it is time that Europe took the matter out of her hands. A new crusade with this object would afford an excellent opportunity to the great powers to work off a little of their martial spirit, and to give some of their soldiers a few lessons in warfare. Mecca is the distributing centre for cholera throughout the world, and it is even said that the disease could be stamped out in India were it not for the fresh infection brought by returning pilgrims every year. It is in Mecca that the sanitary measures should be instituted. Since the rulers of the city will not do it, it ought to be done by men of the West. And until it is done, and done thoroughly, these recurring epidemics can never be prevented. Is there no Peter the Hermit among the sanitarians?

MEDICINE AS A LIBERAL STUDY.

SOME time ago it was proposed by the Harvard Medical School to have the scientific and elementary medical studies—as chemistry, anatomy, physiology, and perhaps botany—made electives for the senior year at Cambridge; so that the junior who had decided on medicine as his life-pursuit could select, in his last or senior year at Cambridge, studies which led him directly to his profession. Three years in the Medical School would then count as four, and he would graduate an M.D. one year younger than by the present method.

This present method, as we have often shown, compels a college graduate who wishes to study medicine to wait until he is twenty-two or twenty-three years of age before he can begin this study. This is often a great hardship, and practically it has had the effect of reducing the relative number of Harvard graduates who chose medicine as a calling. Despite this fact, the Faculty of the University have reported adversely on the plan. They say that this proposed method "abolishes the fundamental distinction between liberal and professional studies, and confounds all distinction between pure and applied science."

In a learned and logical address, entitled "Is the Study of Medicine a Liberal Study?" Dr. Cheevor shows the fallacy of these objections. While the study of medicine as a whole is a technical rather than liberal one, yet certain of its fundamental branches are in every true sense liberal. Anatomy, physiology, and chemistry, for example, call into play the faculties of memory, logic, induction, and observation, and they imply a wide preliminary knowledge of more elementary sciences. The introduction, as proposed, of such studies into the senior year of a classical course would be fully as helpful, mentally and educationally, as metaphysics, history, economics, or belles-lettres. The time will surely come when such introduction will be forced upon our colleges.

THE DRIFT.

UNDER the title "whither drifting," the editor of the *American Lancet* gives us the following interesting historical sketch. It is valuable reading.

"It is stated as an historic fact that Hahnemann was once an honorary member of the New York State Medical Society. For some reason not quite clear, those members of the Society who took up with the new doctrines, and attempted to prove or disprove them, were attacked and expelled from the Society. Being persecuted, these banded together, and hence the beginning of the distinctive organization of the homœopaths. As time passed along, some members of the profession desired to consult with these parties. Their reasons for this does not matter, though it is not denied that if there had been plenty of fat consultations exclusive of these, the desire would not have been so strong. Finally, in New York this part of the profession became so strong that they captured the State Medical Society, and conducted it upon the distinctive features known as the new code. The peculiarity of this code is its elasticity respecting consultations. Its votaries consult with any person they choose. True, a new State Society arose in New York, and maintains a vigorous existence; does splendid work—better than that of the old Society, or any other State Society. However, the new doctrine, with New York as a centre, spreads. Its influence can be seen anywhere. In every city consultations of regulars and irregulars is said to be a common occurrence. In Detroit the Homœopathic Hospital is filled largely with the patients of regular physicians. The carriages of the two sects alternate upon the adjacent streets during regular visiting hours. The Montgomery (Ala.) Medical Society has unanimously adopted resolutions favoring consultations with homœopaths and eclectics. The relations already existing between these practitioners in that State is such that it is no wonder this result follows. All this in the home of the late Dr. Baldwin, of Montgomery, the stalwart opponent of such consultations!

Columbus, Ind., has formed a Medical Society, in which all physicians meet on one common plane. It is reported that that staunch friend of the medical profession, Dr. T. A. Reany, of Cincinnati, spent an evening with this Society.

The editor of the *American Lancet* betrays between the lines a sense of apprehension and gloom. We do not share it. The tendency which he describes is a good one, and its results are beneficial. We are getting better physicians and more honest physicians every year. Sectarianism is disappearing and is bound to be abolished entirely. The test of a man will be his education, his moral worth, and his practical skill. If he has a "fad" or a dogma he will not be ostracized therefor but will be given a fair show, and time will in these days soon prove how much his views are worth.

SPINAL INJURIES IN RAILWAY ACCIDENTS.

SINCE Erichsen maintained that "railway spine" was a disease *sui generis* there has been much difference of opinion as to its existence, although, for a time at least, it seemed as though the affection would come to take its place in surgical nosology as an independent morbid entity. In a paper presented to the American Medical Association at its Washington meeting, Dr. T. A. Manley, of this city, presented a careful review of the subject from a surgical standpoint, dwelling especially upon the lesions of the vertebræ, ligaments, or other parts of the spinal column which may lead to serious results without any implication of the cord. He held that there was nothing peculiar in the traumatism resulting from a railway accident, and that precisely the same effects might be produced by equally severe injuries produced in other ways, and he agreed wholly with Dr. B. A. Watson, of Jersey City, that "in serious injuries of the spine, the local and constitutional symptoms resulting were always in direct proportion to the extent of spinal lesion and pathological changes existing after the accident."

In regard to the source of the spinal hemorrhage, the speaker differed from most writers on the subject, for he believed that the blood was not arterial, but came rather from the meningo-rachidian veins. Spinal hemorrhage took place within the theca, yet external to the dura, and was to be regarded as the most common cause, next to pressure from bony fragments, of meningitis.

The existence of spinal anæmia, whether resulting from railway injury or from any other form of trauma-

tism, was most positively denied by Dr. Manley. He held that anæmia of the spinal cord could occur only in cases of general anæmia, and could never exist apart from that and when other organs were well supplied with healthy blood. He also denied the possibility of myelitis occurring primarily after spinal injury, regarding it as one of the later results of traumatism coming on in consequence of circulatory disturbances and the ensuing interference with the nutrition of the cord.

In short, Dr. Manley has broken a lance with those who hold to a belief in "railway spine" as a peculiar disease, and he cannot see anything in railway injuries that would make their results in any way different from those of traumatism from other sources. But do many people really believe in a pure railway spine at the present day?

News of the Week.

Somewhat Slow, but Probably More or Less Sure.—The tenth International Medical Congress still furnishes fresh matter for the columns of some of our esteemed German contemporaries, who probably think a good thing will always keep. One of them has just begun to publish one "original report" of the Section on Neurology. But even that is way ahead of the Publication Committee of the Congress itself. The latter has succeeded, after great and almost superhuman exertion, in getting out the first volume of the "Transactions," and is presumably resting now and waiting to recover its breath. Our friends of the Publication Committee should try to grasp the idea that the world "do move," and that news, like butter, does not improve with age.

Dr. John F. Keefe died at his residence in this city, August 26th, of heart disease. He was born in Ireland forty-six years ago, and came to this country when a child. He was graduated from the University Medical College in 1881.

Congress of American Physicians and Surgeons—Reduced Railway Fare to Washington.—The following instructions have been mailed to the members of the constituent societies for their guidance in obtaining a reduction in railway fares: The Trunk lines, The New York and Boston lines, the Southern Passenger Association, and the Central Traffic Association, will transport persons wishing to attend the Congress from points on their lines to Washington and return at the price of one and one-third the regular fare on the following conditions: The going ticket must be purchased within three days before the opening date of the meeting. Each person availing himself of the concession must pay full first-class fare going to the meeting, and must obtain a certificate from the agent of whom the ticket is purchased. Those holding such certificates, when countersigned by the proper officer at the Congress, can obtain return tickets at one-third the highest limited fare. Certificates are not transferable, and the return tickets secured upon certificates are not transferable. If any of them are sold or transferred they must be redeemed at the highest first-class rate by the person making such sale or transfer. No certificates will be countersigned at the Congress except those presented by physicians attending the Congress, or their wives and members of their families; nor will any certificate be countersigned after September 26th. No refund of fare will be made on account of any person failing to obtain a certificate. Those who wish to avail themselves of this method of obtaining reduction in fares, should present themselves at the office for certificates and tickets at least thirty minutes before the departure of trains. It is absolutely necessary for each passenger before starting to obtain a certificate from the ticket agent of whom the going ticket is purchased, otherwise he can obtain no reduction in the return fare There will be no stop-over privileges on the return tickets, which must always be by the same route as the going ticket. Members may obtain tickets on these conditions for their wives and members of their families, as well as themselves. Tickets for the return journey will be furnished only provided the properly countersigned certificates are presented to agent at return starting-point within three days after the adjournment of the Congress, Sunday not to be counted as a day.

A Solution of the Counter-prescribing Difficulty.—Two druggists in Chicago were recently arrested and fined $100 each for practising medicine without a license.

The New England Medical Monthly.—Ten years ago the first number of this journal appeared, and to celebrate the event the September number is issued in the form of a souvenir edition. We congratulate our prized contemporary on this tenth anniversary of its birth, and wish it even greater prosperity in the future than it has had in the past. But we must frown upon the indignity to which it subjects some of its contributors by publishing their alleged portraits. They haven't deserved such treatment.

Abandoning Medical Examinations in Life Insurance.—Three life insurance companies in Great Britain have given up medical examinations of applicants for insurance. They hope to avoid loss by giving only a portion of the premium in case of the insured's death before the lapse of a certain number of years.

Medical Fees in Marseilles Two Hundred Years Ago.—A decree of the Faculté de Médecine of Marseilles, dated in 1702, establishing a fee bill for the physicians of that place, has recently been unearthed. From it we learn that the charge for each professional visit was fixed at a quarter of a silver crown (about twenty-five cents), no discount being allowed even though several visits might be made in a day. For a consultation the ordinary fee could be demanded of one silver crown, or a dollar.

Guardians for Confirmed Drinkers.—A bill for the suppression of drunkenness, which has been introduced into the Prussian parliament, provides that every person adjudged to be an habitual drunkard shall be put under the care of a guardian who shall be held responsible for him.

A Low Death rate.—Dr. M. M. Kannon, of Los Angeles, writes us that there has been but one death during the last three years in the Sisters' Orphan Asylum of that city. The average number of children in the Asylum is two hundred and fifty-three, and their average age is under four years.

Dr. Thomas Tart Pratt died in London on Saturday morning, August 29th, at the age of fifty-two. He was born in Mobile, studied medicine in this city, and subsequently served in the war on the Southern side. At the close of the war he went to Paris, where he became associated with Dr. J. Marion Sims, and married one of his daughters. During the Franco-Prussian war he served in the American ambulance corps and rendered valuable service to the sick and wounded on both sides, in recognition of which he was decorated with the cross of the Legion of Honor by President Thiers, and with the Iron Cross by Emperor William I. At the close of the war he resumed his practice in Paris, but finally retired and went to London to live. He had been in poor health for a number of years.

Dr. Horace Hatch died at his home in New Haven, on August 28th, of apoplexy. Dr. Hatch began the practice of medicine in the West, but afterward went to Washington, where he lived upward of twenty years, being one of the most prominent physicians of the city. He retired to New Haven in 1884. He leaves a widow.

The Meeting of the British Medical Association at Bournemouth is pronounced by the English journals an unqualified success, combining, as it did, the maximum of social enjoyment with the maximum of practical work.

Jacques, the Fasting Man, has started in for another long period of total abstinence from food at the London Aquarium.

St. John's Guild Floating Hospital.—The daily trips of the Floating Hospital of St. John's Guild have been continued up to September 5th, and the Seaside Hospital also remained open for the same time. The hospital barge has been making regular trips through the summer, as usual, with the result, doubtless, of saving many a baby's life that would else have been burned out in the hot streets and crowded tenements of a great city.

Dr. Daniel Pardee died of paralysis at his home at Fulton, N. Y., on August 25th, aged sixty-two. He was a son of the late Dr. Stephen Pardee, of Fulton, and father and son were long associated in practice. He was graduated from the Albany Medical College, and served with the Union armies as a surgeon through most of the war. He afterward was pension examiner for the Oswego district. He was a member of the Oswego County Medical Society.

Congress of American Physicians and Surgeons. *Second Triennial Session.*—The Congress meets in Washington, D. C., September 22d to 25th, inclusive. It is composed of the members of those National Medical Societies whose names and Secretaries are given below, and of foreign guests specially invited by the Executive Committee. To enable a physician residing in the United States to become a member of the Congress, with the right to participate in its proceedings, it is necessary that he be a member of one of these Constituent National Societies. A physician may be accredited as a visitor to the Congress by any one of the Constituent Societies. The certificate of the Secretary of one of these societies to the effect that he is thus accredited will enable him to register upon payment of the registration fee, which registration will entitle him to a card of admission to the President's reception and to a copy of the Transactions of the Congress, but not to take part in the deliberations of the Congress. The following are the names of the Constituent Societies in the order of date of their organization, their place of meeting, and the names and addresses of their respective secretaries, to whom inquiries, as to mode of obtaining membership, should be addressed: American Ophthalmological Society, Ladies' Parlor, No. 2, Arlington Hotel; Secretary, S. B. St. John, M.D., Hartford, Conn. American Otological Society, Ladies' Parlor, No. 1, Arlington Hotel; Secretary, J. J. B. Vermyne, M.D., New Bedford, Mass. American Neurological Association, Parlors 182 and 183, Arlington Hotel; Secretary, Græme M. Hammond, M.D., 58 West Forty-sixth Street, New York City. American Gynecological Society, Lecture Hall, Columbian University, 15th and H Streets N. W.; Secretary, H. C. Coe, M.D., 27 East Sixty-fourth Street, New York City. American Dermatological Association, Parlor, The Shoreham; Secretary, George Thomas Jackson, M.D., 14 East Thirty-first Street, New York City. American Laryngological Association, Parlor A, Arlington Hotel; Secretary, Charles H. Knight, M.D., 20 West Thirty-first Street, New York City. American Surgical Association, Main Hall, Grand Army Building, 1412 and 1414 Pennsylvania Avenue; Secretary, J. R. Weist, M.D., 118 North Eighth Street, Richmond, Ind. American Climatological Association, Hall No. 2, Grand Army Building, 1412 and 1414 Pennsylvania Avenue; Secretary, J. B. Walker, M.D., 1617 Green Street, Philadelphia, Pa. Association of American Physicians, Hall No. 1, Grand Army Building, 1412 and 1414 Pennsylvania Avenue; Secretary, Henry Hun, M.D., 33 Elk Street, Albany, N. Y. American Association of Andrology and Syphilology, The Shoreham; Secretary, J. A. Fordyce, M.D., 66 Park Avenue, New York City. American Orthopedic Association, New Reception Room, Arlington Hotel; Secretary, John Ridlon, M.D., 337 West Fifty-seventh Street, New York City. American Physiological Society, Parlor 181, Arlington Hotel; Secretary, H. Newell Martin, M.D., Baltimore, Md. Association of American Anatomists, Hall No. 3, Grand Army Building, 1412 and 1414 Pennsylvania Avenue; Secretary, D. S. Lamb, M.D., 800 Tenth Street, Washington, D. C. American Pediatric Society, Parlor 206, Arlington Hotel; Secretary, W. D. Booker, M.D., 851 Park Avenue, Baltimore, Md.

All physicians are invited to attend the meetings of the Congress and the public meetings of the Societies, but only those may register who are members, specially invited guests, or visitors accredited through the Secretaries of Constituent Societies. The registration office will be in Parlors 1 and 2 of the Arlington Hotel. From this office the mail of members and invited guests will be distributed, and here the city address of each member, guest, and accredited visitor can be ascertained. All members, invited guests, and accredited visitors should register as soon as possible. A registration fee of five dollars will be required of all members and accredited visitors. Invited foreign guests will register, but will pay no registration fee. A copy of the published Transactions of the Congress will be sent to all members, and to each invited guest and accredited visitor who is registered. Only

those who register, and the ladies accompanying them, will be admitted to the reception of the President of the Congress. It is recommended that members effect registration in advance of the meeting by filling out the blank certificates of registration which will be sent to each member about September 10th, and forwarding these certificates, with the requisite fee, to Dr. John S. Billings, Treasurer of the Congress. The sessions of the Congress will be held from 3 to 6 P.M., daily, in the main hall of the Grand Army Building, 1412 and 1414 Pennsylvania Avenue. The President of the Congress, Dr. S. Weir Mitchell, of Philadelphia, will deliver an address Wednesday evening, September 23d, at 8 P.M., "On the History of Instrumental Precision in Medicine." Members of the American Surgical Association and of the Association of American Physicians will conjointly entertain their foreign guests at a dinner at the Arlington Hotel, Thursday, September 24th, at 8 P.M. The American Gynecological Society will give a dinner at the Arlington Hotel, Thursday evening, September 24th. The American Orthopedic Association will give a dinner at the Hotel Arno, Thursday evening, September 24th. The American Laryngological Association will give a dinner at the Hotel Arno, Thursday, September 24th, at 7 P.M. The American Pediatric Society will give a dinner at the Arlington Hotel, Thursday evening, September 24th. The American Dermatological Association and the American Association of Andrology and Syphilology will, conjointly, give a dinner Tuesday evening, September 22d. The American Neurological Association will give a dinner at the Hotel Arno, Thursday evening, September 24th. The American Climatological Association will give a dinner, the time and place to be announced hereafter.

A number of distinguished physicians and surgeons from abroad have accepted the invitation to attend, among whom may be named Mr. B. E. Brodhurst, Mr. Thomas Bryant, Mr. A. E. Durham, Mr. Reginald Harrison, Sir William MacCormac, Mr. Howard Marsh, Dr. William M. Ord, Mr. Frederick Treves, and Mr. U. Pritchard, of London; Mr. Robert Jones, of Liverpool; Dr. W. T. Gairdner, of Glasgow; Mr. E. H. Bennett and Professor J. J. Cunningham, of Dublin; Professor John Chiene and Dr. J. Battey Tuke, of Edinburgh; Mr. G. A. Wright, of Manchester; Dr. F. Beely and Professor H. Krause, of Berlin; Professor Curschmann, of Leipzig; Professor Hoffa, of Wurzburg; M. Emil Javal, Dr. Loewenberg, Dr. Pozzi, and M. Paul Redard, of Paris; Dr. von Mozengeil, of Bonn; and Dr. Rafael Lavista, of Mexico. As other societies will meet in Washington during the Congress week, it will be prudent for members and visitors to secure hotel accommodations in advance.

Officers of the Congress.—S. Weir Mitchell, M.D., *President;* Presidents of Constituent Societies, *Vice-Presidents, ex officio;* William Pepper, M.D., Philadelphia, Pa., *Chairman of Executive Committee;* John S. Billings, M.D., Washington, D. C., *Treasurer;* William H. Carmalt, M.D., New Haven, Conn., *Secretary.*

Committee of Arrangements.—Samuel C. Busey, M.D., *Chairman,* 1545 I Street N. W., Washington, D. C.; John S. Billings, M.D., Army Medical Museum, Washington, D. C.; W. W. Johnston, M.D., 1603 K Street, Washington, D. C.; R. T. Edes, M.D., 1214 Eighteenth Street, Washington, D. C.; S. O. Richey, M.D., 732 Seventeenth Street, Washington, D. C.; J. Taber Johnson, M.D., 1728 K Street, Washington, D. C.; Samuel S. Adams, M.D., 1632 K Street, Washington, D. C.; I. E. Atkinson, M.D., 605 Cathedral Street, Baltimore, Md.; C. F. Bevan, M.D., 807 Cathedral Street, Baltimore, Md.; Samuel Johnson, M.D., 204 Monument Street, Baltimore, Md.; Samuel Theobald, M.D., 304 Monument Street, Baltimore, Md.; H. Newell Martin, M.D., Johns Hopkins Hospital, Baltimore, Md.; D. Forest Willard, M.D., 1818 Chestnut Street, Philadelphia, Pa.; D. S. Lamb, M.D., 800 Tenth Street, Washington, D. C.

Obituary.

ABRAM DuBOIS, M.D.,

NEW YORK.

DR. ABRAM DUBOIS, one of the oldest physicians in this city, and one of the greatest friends to medical science, died at his residence, 16 West Thirtieth Street, on Saturday evening, August 29th. He was a native of Red Hook, Dutchess County, and was eighty-one years old at the time of his death. His collegiate education was obtained in Trinity (then Washington) College, Hartford, where he was graduated in 1830, when but twenty years old. After graduation he entered the office of Dr. Nelson, in Rhinebeck, and later that of Dr. J. K. Rodgers, in this city, while he attended lectures at the College of Physicians and Surgeons. He received his medical degree from that institution in 1835, then studied two years abroad, and on his return entered the Bellevue Almshouse Hospital as interne.

Dr. DuBois was one of the ten living benefactors of the New York Academy of Medicine, and he richly deserved this title. Visitors to the old building were familiar with the tablet in the main hall which read: "This Hall, the Gift of Abram DuBois, M.D., a Generous Benefactor of the New York Academy of Medicine, was Erected A.D. 1879." But this was by no means the extent of his donations, for it is largely owing to his gifts of money and books that the library is what it is. He not only gave $3,000 for a permanent library fund, and presented the Academy with many bound volumes, but also gave the librarian *carte blanche* to purchase any new books that might be needed and send the bills to him, contributing about $1,500 more in this way. Upon the erection of the new building the tablet was transferred from the old hall and placed in one of the rooms of the Academy, known as the DuBois room.

Dr. DuBois was identified for over forty years with the New York Eye and Ear Infirmary, having been appointed Assistant Surgeon there in 1843, and then serving as Surgeon and Consulting Surgeon, and later as Trustee and Vice-President of the Board of Directors. He was also actively interested in many of the charitable institutions in this city. He was one of the founders of the New York State Medical Association and of the New York County Medical Association, a member of the New York Medical and Surgical Society, of the Physicians' Mutual Aid Association, and of the American Ophthalmological Society, benefactor of the Society for the Relief of Widows and Orphans of Medical Men, Consulting Physician to the New York Institution for the Blind, to the Northern Dispensary, and to the Home for Incurables, and a member of various other associations in New York.

Few men have done more to advance the interests of the medical profession in New York than Dr. DuBois, and his memory will remain ever dear to those who knew him in life, while his name will live always in the medical and charitable annals of this city.

Society Reports.

SECOND CONGRESS FOR THE STUDY OF TUBERCULOSIS.

Held in Paris, July 27, 28, 29, 30, and 31, and August 1, 1891.

(Special Report to the MEDICAL RECORD.)

(Continued from page 219.)

FOURTH DAY, THURSDAY, JULY 30TH.

IN the morning of this day the members assembled at Val-de-Grâce, where M. BURLUREAUX presented a number of patients whom he had treated by his method of subcutaneous injections of creasote in large doses. The injections seemed also to have a very beneficial influence upon malarial paroxysms, for some of his patients returning from Tonkin with tuberculosis were also suffering severely from intermittent fever, and this disappeared after the injections had been begun.

Hospital Treatment of Tuberculosis.—The discussion of this question was opened by M. LEROUX, who reported upon the results obtained in hospitals for tuberculous children established at the seashore. The results had everywhere been excellent, and the number of beds in institutions of this sort in France now was upward of 1,700. The benefits were in proportion to the length of stay of the little patients in the hospitals. In those institutions in which the children were received for a short time only the percentage of cases cured or markedly improved was only a little over twenty-five, while in those in which the patients were detained a long while, not less than from seventy to ninety per cent. were benefited.

M. VIDAL was in favor of short treatment, or rather of intermittent treatment. He would have the patients spend a short time at the seashore, just long enough to let them get saturated, as it were, with the sea air, then he would remove them for a while and bring them back for another saturation.

M. ARMAINGAUD was wholly opposed to this intermittent treatment, and thought the correctness of his view was well substantiated by his experience at Arcachon, where the children were detained for long periods, and continued to improve steadily.

M. PETIT described the hospital for tuberculous children at Ormesson, which had been opened in 1888 with twelve beds and now had one hundred. The hospital was free, and the extent of the work was increasing constantly.

Surgical Treatment of Pulmonary Cavities.—MM. POIRIER and JONNESCO read a paper upon this subject, based upon their experiences in twenty cases. Their mode of operating was as follows: An incision through the skin and subcutaneous tissue, made by the thermo-cautery, is carried from a point in the middle line of the sternum, two fingers' breadth below the notch, along the first intercostal space for a distance of 9 ctm. The pectoralis major now appears at the bottom of the incision, and by means of a sound some natural separation in the fibres of this muscle is exaggerated until the intercostal space beneath is exposed. The intercostal muscles are then carefully divided and the pleura exposed. If this is found to be adherent, as it usually is in the cases in question, the cavity is at once widely opened by the thermo-cautery. When the pleura is non-adherent a slight inflammation must be provoked, further operation being postponed for a few days. The operation is easy of accomplishment, and is free from danger. Resection of the ribs is unnecessary, drainage, disinfection, and local medication being easily accomplished without it. In twenty-nine cases of incision into pulmonary cavities there had been four cures, fifteen in which there was more or less benefit, both local and general, nine without result, and one the result of which was not known. The authors urged the more frequent employment of this method of treatment in pulmonary phthisis in which cavities had formed.

Systematic Ventilation of the Sick-room.—M. DUBRANDY read a paper on the advantages of continuous aëration of the bedroom occupied by a phthisical person. The patient should sleep with a window open at the foot of the bed, they themselves being well wrapped up and having their heads covered. He had seen the disappearance of the cough, night-sweat, and morning vomiting as a result of the institution of this free ventilation of the sleeping apartment.

High Altitudes in the Treatment of Tuberculosis.—M. PETIT read, in behalf of an absent member, a paper describing his mode of treatment of tuberculous patients at a mountain resort during the winter.

Toxic and Vaccinal Substances Contained in Cultures of Tubercle Bacilli.—M. BABÈS read a paper embodying the results of a study which he had made of these substances. They were dialyzable and were precipitated by alcohol, and were without doubt albuminoids. They were incapable of producing the disease, differing in this respect from the products of culture of tetanus and diphtheria bacteria. Certain substances obtained from aviary cultures resembled in some respect those found in human cultures, but the speaker would not conclude from this that the bacilli were identical.

Inoculation with Lupus Vulgaris.—M. LELOIR presented a communication in which he gave the results of the inoculation of guinea-pigs and rabbits with portions of tissue from lupus. The development of tuberculosis in animals took an average of about three weeks, and by the end of four months it was found fully established. In order to succeed, however, it was necessary to introduce the material into the anterior chamber of the eye, in the rabbit, and into the peritoneum in the guinea-pig, and a comparatively large piece had to be used. All attempts to produce the disease by introducing the lupus tissue under the skin of the animal were unsuccessful, thus proving that the virulence of this form of tuberculosis was slight.

M. NOCARD had obtained very similar results in the inoculation of rabbits with hog scrofula.

Spontaneous Tuberculosis in a Dog.—MM. CHANTEMESSE and LE DANTEC reported a case of tuberculosis occurring in a dog. The tumors had the appearance of sarcomata, but bacteriological examination and the result of inoculation showed the presence in them of tubercle bacilli. It is incorrect, therefore, to regard the dog as immune from tuberculosis. The authors thought that this opinion had arisen from the fact that tubercular lesions in this animal resembled sarcoma so closely.

M. ARLOING said that he had not made any particular study of lupus, but from his investigations into other forms of tuberculosis he had no doubt but that there were many varieties, differing greatly in their degree of virulence, according to the degree of attenuation of the bacilli.

Treatment of Tuberculosis of the Testicle.—M. HUMBERT read a paper on this subject in which he expressed himself as wholly opposed to castration. If the epididymis and testicle were both extensively involved he would still not castrate, but would scrape out all the diseased tissue with the curette, resecting the epididymis if necessary. There would be left the thickened tunica vaginalis, and after cicatrization there is to be felt a rounded body giving the appearance of a testicle, and which M. Verneuil had very happily called a "moral testicle."

M. VERNEUIL said that he had for many years condemned castration in this disease, an operation which not infrequently was the direct apparent cause of a generalization of tuberculosis. But in any case castration is useless, as we do not thereby remove the only focus of disease, the prostate and vesiculæ seminales being also affected in at least eighty per cent. of these cases.

Gastric Conditions in Tuberculosis.—M. MARFAN read a paper on this subject, which he regarded as one of prime importance, since the necessity of proper nutrition of the patient with phthisis was so apparent. The dyspepsia of this disease usually appeared quite suddenly, but sometimes there were prodromic symptoms extending over a longer or shorter period, consisting in more or less gastric pain and hyperacidity. Accompanying this is dilatation of the stomach. In the later stages of the disease this ordinary dyspepsia sometimes gives place to actual gastritis. The treatment of the dyspepsia of the phthisical should follow no fixed rule, but should meet the indications furnished by each particular case.

M. TUFFIER said that the surgeon was often embarrassed to decide whether a hydrocele which he was called upon to treat was due to the presence of tubercles in the tunica vaginalis or not. In order to determine this point he was accustomed to inoculate animals with the fluid withdrawn. Bacteriological examination of the fluid is usually negative, but intra-peritoneal injection will give certain results if the fluid depends upon the presence of a tubercular lesion.

Inoculation of Tuberculosis through Vaccine Virus.—M. BERNHEIM reported the results of experiments which he had made to determine whether bovine virus ever contained tubercle bacilli, and whether vaccination could give rise to tuberculosis. His conclusions were that vaccination was in general inoffensive, but that it would be better always not to employ any bovine virus for vaccinations, until the vaccinifer had been killed, and had been shown by post-mortem examination to be free from any tuberculous lesions. He added also that he had made use of goats' blood in preference to dogs' in the treatment of tuberculosis, for the reason that the dog was subject to rabies.

M. NOCARD said this was a purely imaginary danger, for the blood of a mad dog never contained the virus of the disease, or at least it had been found impossible to produce the disease by means of inoculations with the blood.

Retro-Malleolar Tuberculosis.—M. CLADO read a paper on this condition, which he said was not rare, but was of short duration, seldom remaining localized for any protracted period. At its inception it often simulated a gumma.

Tuberculosis and Malaria.—M. KOHOS had studied in Tunis the relations existing between malaria and tuberculosis. He had found that those profoundly under the influence of the malarial poison frequently became the subjects of tuberculosis, and he believed that the anæmia associated with malaria was a predisposing cause of tuberculosis. In grave cases of pernicious fever transfusion of blood was indicated, not only to remove the immediate danger to life, but also to overcome the anæmia on account of which an invasion of tuberculosis was threatened.

Heating in Tuberculous Arthritis.—M. CLADO related some attempts to destroy the bacilli in tuberculous joints by exposing the limb, wrapped up in cotton, for some time to a temperature of 230° F., which he said could be borne. Of six cases of tuberculous ostitis of the ankle and wrist treated after this plan four were cured and two markedly benefited.

FIFTH DAY, FRIDAY, JULY 31ST.

Prophylaxis of Tuberculosis.—The discussion of the fourth question was opened by M. ARLOING. He said that objection had been made to the prohibition of the flesh of tuberculous animals as food for man, on the ground that the identity of human and bovine tuberculosis had not been established. But he denied this, and said that the identity had been established by experiments sufficiently to warrant the strictest measures to prevent the consumption of flesh from tuberculous animals. It had also been maintained that cooking removed all danger, but he held that there was no certainty that the danger was overcome unless the meat was very well done. He estimated the number of tuberculous animals that ought to be destroyed at five per cent. of the total number butchered.

M. NOCARD thought that the previous speaker had put the percentage of tuberculous animals much too low, and thought that, if the owners of diseased animals were recompensed for their loss, the number would be found to be considerably greater than it is now supposed to be, for the owners will naturally do all they can to prevent the discovery of the disease in their stock.

M. TRASBOT said that, if the inspection of beeves were to be made properly, it would be necessary to suppress all private abattoirs, and allow no animals to be slaughtered except in public abattoirs. The cost of slaughtering is furthermore cheaper in the latter than in the former.

The question was further discussed by MM. Butel, Laquerrière, Robcis, and Degive.

M. ESPINA Y CAPO presented a communication in which he urged the isolation, as far as practicable, of tuberculous patients, destruction by fire of sputa and fæces, and of the clothing and personal effects of a nature likely to hold the germs. The children of tuberculous mothers should not be allowed the breast milk, but should be put out to nurse or should be fed artificially. Young persons with a predisposition to disease should early be taught to practise respiratory gymnastics. No milk should be taken that has not been previously boiled, and all meats should be most thoroughly cooked.

M. VERNEUIL said that when one was called to see a pregnant woman who was syphilitic, measures were at once taken with a view to preserve the child from infection if possible, but this was never done in the case of tuberculosis. He urged that as much attention be given to the tuberculous woman as had always been bestowed upon the syphilitic.

Alcohol in the Etiology of Tuberculosis.—M. TISON read a paper on this subject. After alluding briefly to the ill effects of damp and dark dwellings, poor food, etc., he said that enough attention had not been given to the influence upon the development of tuberculosis exerted by the immoderate consumption of alcoholic liquors. The man who drank habitually more than a bottle of wine a day was in danger of becoming dyspeptic, this would lead to more drinking, gradually the strength would be lost, and the individual would then offer a proper field for the reception and development of the tubercle bacilli. The speaker related a number of cases of drunkards who became tuberculous, and he said this was a question of the most urgent moment, especially in cities.

M. ARTHAUD presented a number of statistics showing the excessive frequency of tuberculosis in certain infected localities. He called especial attention to the danger to healthy individuals of remaining for any length of time in watering-places and health-resorts frequented by the phthisical. He advocated a law requiring the physician to report all deaths from tuberculosis, so that the authorities might take measures to disinfect thoroughly the dwelling occupied by the patient.

M. BOULAND sent a communication calling attention to the influence of the inhalation of kaolin dust in provoking pulmonary disease among the operators in porcelain factories. The irritation caused by the lodgement of the dust afforded a nidus for the tubercle bacillus, but the progress of the disease was always very slow, for the same irritation that furnished a proper soil for the bacilli also excited a sclerosing process which limited the further spread of the lesion.

Koch's Lymph in Cattle.—M. CAGNY read a paper, giving the result of a number of experiments made upon cattle with tuberculin. Thirty animals were bought in the market, and were given injections of tuberculin, and then very carefully watched by several skilled veterinarians, who made regular thermometric observations. A febrile reaction was noted in only four of the animals, and these

four were found, when all the animals were killed, to be the only tuberculous ones in the herd.

A Prize of Six Hundred Dollars. — M. VERNEUIL announced that a prize of 3.000 francs would be awarded at the next congress to the author of the best essay on "The Best Means of Diagnosing Latent Tuberculosis."

SIXTH DAY, SATURDAY, AUGUST 1ST.

Means of Destroying the Tubercle Bacillus.—The fifth question proposed for discussion was that of agents capable of destroying the bacillus of Koch, which at the same time are not injurious to the human organism.

M. DIAMANTBERGER read a paper concerning the subcutaneous injection of guaiacol in the treatment of tuberculosis, based upon the experiences of M. Weil and himself. They employed a fifty per cent. solution of guaiacol in sterilized oil of sweet almonds, injecting on an average two Pravaz syringefuls in the twenty-four hours. They had made more than ten thousand injections, and never had an accident.

M. DESPREZ presented a communication on the use of chloroform as an anti bacillary agent. He said that it was an efficient microbicide, and being volatile, could be readily introduced into the air-passages.

M. PICOT spoke of the method already published by him of injection of guaiacol and iodoform in sterilized oil and liquid vaseline, and related several cases in which much improvement in the general and local conditions had followed the use of these remedies. He did not claim that this method constituted a specific for tuberculous disease, but it was often of very great service

Typho-Bacillosis.—M. LANDOUZY read a paper on a form of disease which clinically bore a striking resemblance to typhoid fever, the only characteristic symptom that was absent being the rose colored spots. On autopsy, however, the lesions of typhoid fever are not found, but instead the presence of young miliary tubercles is noted. He had first called this disease typho-bacillosis, but now proposed the name of pretuberculous bacillary fever.

Hæmatoscopy in the Study of Tuberculosis.—M. HÉNOCQUE read a paper detailing the results of numerous spectroscopic examinations of the blood of tuberculous individuals. In all cases the oxyhæmoglobin was reduced in quantity, the reduction being in general in proportion to the gravity of the lesions and to the depressed condition of the patient, though it was always most marked in tuberculosis of the bones and joints, and least marked in lupus. In regard to the therapeutics of the disease, one of the author's deductions from his investigations was that arsenic and iron were very efficacious, at least in so far as they tended to increase the proportion of oxyhæmoglobin in the blood.

The Sclerogenic Method.—M. COUDRAY read a paper on "Lannelongue's Method of Treating Surgical Tuberculosis by Injections of Chloride of Zinc," and described its application in a case of Pott's disease.

The Diagnosis of Tubercular Testicle.—M. TUFFIER described a method used by him to determine whether a hydrocele was simple in its nature or symptomatic of tuberculosis of the testicle. This consisted simply in injecting some of the fluid into the peritoneum of a rabbit. This was much more certain than a bacteriological examination of the fluid.

M. PETIT delivered an address at the close of the session, and then, after the adoption of a number of resolutions relating to public measures for the prevention of tuberculosis, the Congress was declared adjourned.

Gonorrhœal Rheumatism in a Young Child.—Dr. Auguste Ollivier reports in *La Médecine Moderne*, of June 25, 1891, a case of gonorrhœal rheumatism observed in a girl five years of age.

THE INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

Held in London, August 10, 11, 12, 13, 14, 15, 17, 1891.

(From our Special Correspondent.)

FIRST DAY, MONDAY, AUGUST 10TH.

THE opening meeting of the Congress was held in the afternoon in St. James' Hall. About two thousand persons were present. Sir Douglas Galton presented the Report of the Permanent International Committee. The Prince of Wales, President of the Congress, then gave a short address in which he tendered a hearty greeting to all the members.

Speeches were then made by the following foreign members of the Congress on behalf of the countries they represented, viz., Dr. Brouardel (France), Dr. Van Coler (Prussia), Professor Corradi (Italy), Dr. Roth (Germany), and Professor Körösi (Austria-Hungary). Sir James Paget then moved a vote of thanks to the Prince of Wales for having accepted the office of President, and for the manner in which he had conducted the business of the day. This was seconded and carried unanimously.

SECOND DAY, TUESDAY, AUGUST 11TH.

SECTION ON PREVENTIVE MEDICINE.

Advance in Preventive Medicine.—SIR JOSEPH FAYRER presided and gave an interesting introductory address. He spoke of the present aspects of preventive medicine, its recent development, and of how the public mind was becoming gradually imbued with the conviction that prevention was better than cure, and often easier. The advance in preventive medicine had been most remarkable during the last half of the present century. It was now pretty generally understood that about one-fourth of all the mortality in England was caused by preventable disease, that the death rate of large communities might be reduced much below that at which it was wont to stand, that the average duration of life might be made to approximate near to the allotted four score, and that the conditions of living might be greatly ameliorated. Certain well-known diseases were less severe now, if not less frequent. The death-rates from small-pox, enteric fever, typhus, and scarlatina, had declined of late years; that from diphtheria had increased, showing, perhaps, that the disease was now better differentiated from scarlatina. Dr. Buchanan, in England, and Dr. Bowditch, of Massachusetts, had both showed that there was a striking parallelism between the diminution of the death rate from phthisis and the drying of the soil resulting from the construction of sewerage works. Preventable disease still killed in England about 125,000 yearly, and it had been calculated that 78¼ million of days of labor were lost annually from preventable sickness, which meant $39,000,000 per annum. It was not to be expected that we could exterminate zymotic disease altogether, but we could diminish its incidence. The speaker was inclined to give a very wide scope to preventive medicine. The records of the past fifty years proved the influence exerted by sanitary measures on vital statistics. The beneficial results of sanitary work were also well illustrated in India. In preventive as in curative medicine, knowledge of causation was essential, and recent advances in physiology, chemistry, histology, and pharmacology had done much to throw light on the nature and causes of, and also on the means of preventing or of dealing with, disease. The study of bacteriology was opening out sources from which might flow results of incalculable importance in their bearing on life and health.

The Mode of Preventing the Spread of Epidemic Disease from one Country to Another.—SURGEON-GENERAL CUNNINGHAM then read a paper on this subject. Taking cholera as the type of epidemic disease, he said we had three well-recognized methods of preventing its spread

from country to country, viz.: 1, Quarantine; 2, medical inspection; 3, sanitary improvement. Land-quarantine was impracticable, and sea-quarantine had done no good. The liability of the inhabitants of Malta to all epidemics was a good example of the failure of sea-quarantine to effect practical results. Medical inspection of those entering a port was of some merit, and certainly the sick benefited by it, but the third method was the only one of real service.

The Transmission of Cholera from one Country to Another.—INSPECTOR-GENERAL LAWSON read a paper on the above subject. He said there had been, and still remained, a most serious error in assuming that personal communication was so powerful a factor as many believed. The speaker related three instances which had occurred of late years, of the outbreak of malignant cholera at points in advance of those which the disease had already reached in the epidemic form. These instances showed that the efficient factor of cholera could be conveyed by atmospheric currents, from where it was already prevailing to localities at a great distance, in sufficient quantity to generate an epidemic. Cholera, therefore, could not be excluded from any country by quarantine, and all that could be done was by hygienic measures to improve the health of the population, and to remove the conditions favoring the formation of foci.

Australian Quarantine.—DR. ASHBURTON THOMPSON read a paper on this subject. The views accepted in Australia, he said, were based on the resolutions passed at the Australasian Sanitary Conference held at Sydney in 1884. Medical inspection was the outcome of England's local conditions, was exactly suited to them, and therefore not necessarily suitable where local conditions differed from England's. The degree of protection which quarantine could afford varied inversely with the ease of communication between the infected country and the country to be defended. Quarantine could yield protection commensurate with its cost only in countries whose internal sanitation was good, and its function was not to exclude infection, but to lessen the entering number of the foci of infection. The author then proceeded to point out that nations whose internal sanitary organization was not perfect could not afford to refer the observation of suspects to the country at large. Consequently, limited quarantine should be employed against ships actually carrying cases of exotic disease—that is, vessels and equipment should be cleansed forthwith—but the ship's company should be detained in isolation for periods slightly in excess of recognized incubation periods.

A discussion followed the reading of these papers. DR. FELKIN, of Edinburgh, gave an account of the preventive methods in use among some of the White Nile tribes. Certain African tribes had actually stamped out syphilis by methods of inoculation closely allied to our vaccination. Cholera, to Dr. Felkin's knowledge, had penetrated as far as Uganda and Uynoro, and there the natives recognized the value of preventive methods. On the last occasion they not only evacuated but burnt their villages, with the result that the disease was arrested.

DR. SIMPSON, of Calcutta, said everything went to prove that there was no danger of cholera being brought to Europe by sea. India had been considered to be the starting-point of cholera, but India had three populations —the Hindoos, the Mohammedans, and the Europeans. The Europeans who travelled were not very subject to cholera; the Hindoos, who were immensely subject to cholera, did not travel at all, because they would lose their caste. Mohammedans were the real danger, and Mecca or Medina might be looked upon as a permanent threat to European security.

DR. HEWITT, of Minnesota, said quarantine and medical inspection might do much, but not unless they were properly organized.

LE DUC, of Nantes, PROFESSOR BROUARDEL, and several others then spoke of the practical good to be obtained from a system of strict quarantine.

SIR JOSEPH FAYRER remarked that he was in entire accord with all the ordinary hygienic notions of the French, but he could not think their notions about the efficacy of quarantine were serviceable.

DR. STOKVIS, of Amsterdam, spoke favorably of English sanitary measures in India, and DR. ROBERT PRINGLE brought the discussion to a close by expressing his concurrence with the opinion expressed by Surgeon-General Cunningham, as to the uselessness of quarantine.

SECTION ON BACTERIOLOGY.

Etiology of Malaria.—The first paper was read by PROFESSOR LAVERAN, of Paris, on "The Etiology of Malaria." He said that the hæmatozoon described by him in 1880 had since been recognized by many other observers. He described the chief forms which it assumed, viz., spherical bodies, flagella, cruciform bodies, and rosette-shaped bodies. There were also deeply-pigmented leucocytes to be found in the blood of patients suffering from malaria. The flagella could only be demonstrated in fresh blood; the other forms were well seen in preserved blood. Similar hæmatozoa had been found in different animals—frogs, lizards, marsh tortoises, and birds, yet several points of difference existed.

PROFESSOR CROOKSHANK congratulated Professor Laveran on his paper, and said the evidence was in favor of the bodies described by M. Laveran being the cause of malaria; but it must not be forgotten that they were also found in healthy animals.

MR. W. NORTH said there were, no doubt, peculiar changes to be seen in malarial blood, but he could not believe that malaria was due only to these changes. The plasmodium had never as yet been discovered in air, earth, or water, and no results had ever been obtained by the injection of undoubtedly malarial soil.

Asiatic Cholera and the Comma Bacillus.—PROFESSOR HUEPPE, of Prague, then read a paper on the above subject. He described the cultivation of the bacillus in different media and under various conditions. He had been able to produce death in the lower animals, which was an advance on Koch's researches.

DR. KLEIN said he did not think comma bacilli always occurred in sufficient numbers to produce cholera, and uniform numbers of bacilli were not always present in cholera.

DR. CUNNINGHAM, of Calcutta, said he had found eight different species of comma bacilli. Comma bacilli were also found in the mucoid tissue of healthy apes and guinea-pigs.

PROFESSOR MAX GRUBER, of Vienna, considered that it was almost proven that the comma bacillus was the cause of cholera, though in some minor points he had not obtained the same results as Professor Hueppe had.

DR. BRUCE, of Netley, said that he had injected a pure culture of cholera bacillus into guinea-pigs, and they died; rats similarly treated did not die. He had found comma bacilli grew well inside eggs, and described some experiments he had performed with egg cultivations.

The Mouth as a Focus of Infection, was the title of a paper read by PROFESSOR MILLER, of Berlin, in which he enumerated the local and general diseases—thirty-five in number—due to the action of bacteria in the mouth, and gave a list of these pathogenic bacteria. In inoculating animals with the saliva of one hundred and eleven healthy persons, death followed in one hundred and one cases. Two groups of pathogenic bacteria occurred in the mouth, one producing speedy death through septicæmia, the other producing extensive suppuration. The value of antiseptic solutions in prophylaxis was then discussed.

The Bacteriology of Dental Caries.—MR. HENRY SEWILL then read a paper on this subject. The active agents in caries, he said, were acids and micro-organisms. As predisposing causes he enumerated, (1) inherent de-

fects in enamel, (2) crowding or irregularity of the teeth, (3) vitiated buccal secretions.

PROFESSOR GRUBER described a new pyogenic micro-organism—micromyces Hoffmanni—and PROFESSOR CROOKSHANK gave an account of his observations on streptococcus pyogenes, which had led him to conclude that distinct varieties of the organism existed.

Cancer as an Infective Disease.—MESSRS. SHATTOCK and BALLANCE contributed the above paper. They maintained that cancer ought to be regarded as a parasitic disease, though it had not yet been found possible to transmit cancer from one species of animal to another, and all attempts at cultivating a microbe had failed as yet. Cancer had, however, been transferred from one rat to another, and from dog to dog.

Psorospermosis as a Possible Cause of Epithelial Tumors.—DR. SHERIDAN DELÉPINE read a paper on this subject. He concluded that the evidences which he had been able to collect were against the psorospermial nature of the bodies which he had observed in epithelial tumors, and he thought the same conclusions must extend to the bodies observed in Paget's disease of the breast.

SECTION ON THE RELATION OF THE DISEASES OF ANIMALS TO THOSE OF MAN.

DR. ROUX, of Paris, delivered an address on "The Prevention of Hydrophobia," and gave an account of the results obtained in the Pasteur Institute.

The Prevention of Rabies in Dogs was the title of a paper read by DR. GEORGE FLEMING. He urged that the following measures should be adopted, viz.: 1, the destruction of rabid dogs; 2, the control of ownerless dogs; 3, muzzling; 4, dog tax and registration. The value of the muzzle in suppressing rabies had been especially demonstrated in London in 1885. In other countries where rabies prevailed, and dogs were not muzzled, though other measures—as the dog tax, medal on the collar, leading by a leash, etc.—were adopted, the malady continually manifested itself, and numbers of people perished from hydrophobia every year.

M. NOCARD, of Alfort, spoke of a prophylactic treatment which he thought applicable to domestic animals, at least to herbivora. M. Galtier announced some time ago that the injection of rabic virus into the veins of the sheep and the goat did not produce hydrophobia, but rather conferred immunity. He had himself made a number of experiments recently, by which he had been able to show, 1, that the intra-venous injection of rabic virus would not produce rabies in horses; 2, that if the quantity injected was sufficient, these horses acquired an immunity against rabies; 3, that it was possible to protect equines inoculated by intra-ocular injection when there were introduced into the veins certain quantities of dilute rabid nervous material. He hoped a prophylactic treatment might arise out of the labors of M. Galtier.

PROFESSOR REDFERN, of Belfast, thought muzzling in certain areas only was ridiculous.

DR. OSTERTAG, of Berlin, said that in Berlin all dogs wore muzzles, and a case of hydrophobia had not been reported for ten years.

SECTION ON INFANCY, CHILDHOOD, AND SCHOOL LIFE.

The Scientific Observation and Study of Children in Schools.—DR. FRANCIS WARNER read a paper on the above subject. The paper was based upon observations made on fifty thousand children. He had observed that a large percentage of irregular attendance was due to physical weakness. Low nutrition appeared to be largely dependent upon conditions of low development. A class of children presenting certain nerve-signs were ill-balanced and over-mobile, but were usually mentally bright; certain other mental signs were ordinarily associated with low mental status. Eye affections were very numerous, and ophthalmia in all stages was present in some day schools.

DR. JACOBI, of New York, suggested that feeble-minded children should be trained apart.

MR. NOBLE SMITH said he had noted a large amount of physical deformity among the working classes in all parts of London, which he attributed to bad nutrition during childhood.

The Early Recognition and Probable Arrest of St. Vitus's Dance in School Children.—DR. STURGES read a paper with this title. He said the disease was first detected by observation of the muscles of the face, which twitched; then, if the child became ill-tempered and untidy in his appearance, inquiries should be made of the mother if the child slept well and had sufficient food. The chief causes of chorea arising in the school itself were examinations, unexplained sums, and punishment before other children. If there were any muscular infirmity the hand test was infallible. If the child could hold up both hands straight with the fingers open, and there was no falling back of the hands nor quivering of the muscles, he was free from any danger of chorea.

DR. CHEADLE remarked that there was another cause besides the wear and tear of learning and nervousness, and that was excitement. He did not agree with Dr. Sturges as to chorea not being a grave disorder.

Ringworm in Elementary Schools.—MR. MALCOLM MORRIS read a paper with this title. Ringworm, he said, was very common in London, and he lamented that there was no uniform method adopted in board schools in regard to it.

DR. COLCOTT FOX said there were three alternatives for the stamping out of ringworm in schools, viz.: 1, to place affected children in isolated schools; 2, to admit them to schools, but place them in a separate room; 3, to isolate them on separate forms, germicides being applied to the scalp, and a cap worn during school hours.

Epidemics in Schools.—DR. SHELLY, of Hertford, read the above paper. He pointed out that such epidemics usually originated outside schools and were favored by the aggregation of susceptible material.

SECTION ON CHEMISTRY AND PHYSICS IN RELATION TO HYGIENE.

SIR HENRY ROSCOE presided, and gave an address in which he touched on the water-supply of cities, the disposal of excreta, air pollution, etc.

Town Fogs was the title of a paper read by DR. W. J. RUSSELL. Fogs acted injuriously mainly in two ways: 1, by the stoppage of light; and 2, by the toxic effect produced by the impurities retained in them—chiefly sulphurous acid and empyreumatic products of carbonism. The author advocated the abolition of fogs by suppressing heating by means of coal.

Fog in Relation to Health.—DR. THEODORE WILLIAMS said he believed London fog was not so fatal as many people had supposed, and he had found that some cases of bronchitic asthma were benefited by exposure to it.

MR. ERNEST HART remarked that the mortality of London during the previous great fogs had been as great as during a cholera season.

A resolution was adopted requesting the proper authorities to consider whether legislative measures could not be introduced to lessen the amount of smoke produced from dwelling-houses in towns, and thus diminish the density of town fogs.

DR. SHERIDAN DELÉPINE and MR. A. B. GOMESS exhibited an apparatus designed to show the possibility of removing the smoke of fires from the air of towns, and of using it for disinfecting sewers. By means of a small amount of water falling a few feet, a large amount of air could be displaced, and the smoke of a fire from a chimney diverted into a system of pipes running in any direction, and by a very simple combination of channels

and chambers the sewage itself might be used for the purpose of displacing the smoke and causing it to mix with the sewage.

SECTION ON NAVAL AND MILITARY HYGIENE.

The first paper read was on "Modern Quarantine in Canada and the United States," by DR. MONTIZAMBERT, Medical Superintendent of the Canadian Quarantine Service.

DR. VALENTIN VIGNARD discussed the relative value and inconveniences of quarantine and medical inspection. In quarantine the dominant idea was isolation; in medical inspection it was disinfection. The progress of international sanitary prophylaxis demanded that disinfection should occupy a more prominent place, and he hoped the word quarantine might pass out of use.

DR. STOPFORD TAYLOR pointed out the want of system in the medical supervision of the mercantile marine in Liverpool.

DR. BÉRANGER-FÉRAUD said that though quarantine was retained, France had not failed to follow the advance of scientific knowledge, and the period of detention of suspected ships or persons was governed accordingly.

DR. MASON, of Hull, described the precautionary measures adopted with emigrants passing through Hull, to the number of forty thousand or fifty thousand annually, *en route* for America.

(To be continued.)

Correspondence.

ATONY OF THE LOWER SEGMENT OF THE UTERUS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue of July 4th, Dr. W. H. Johnston writes of "A Rare Condition of Labor," giving few details and no specific name to the condition; and desires to know: "Why did not the os uteri dilate?" Among my notes I find a case similarly interesting, of which the following is a synopsis:

Mrs. G——, aged twenty-eight, a primipara, a strongly built little woman, was in labor at term. It was 5 P.M. when I saw her. She had had pains all day, and thought she must be near the end of her suffering. During a pain, which recurred every ten or fifteen minutes, the uterus, as felt through the abdominal wall, seemed to contract powerfully and effectively. Vaginal examination discovered a bag-like protrusion into the vagina from above. It felt thin and fluctuating, and became more tense and protruding with each contraction of the fundus uteri. The waters had not yet escaped. Hastliy assuming this bag to be the amnionic sac, I searched for the margin of a fully dilated os uteri, but could not find it. The bag and the vaginal wall were continuous. The question then arose, was it a case of occlusion of the vagina, or of the os uteri? It was neither, for the length of the vagina was not curtailed, though the os and cervix were seemingly absent; and a more diligent search during a pain discovered a dimple, situated posteriorly toward the sacrum, which proved to be the permeable os uteri. Pressure on the site of this dimple easily effected the entrance of the index finger into the bag, which yielded readily to forward traction by the finger hooked in the anterior segment. The contractions of the fundus seemed to have no effect on the vaginal portion of the uterus, beyond distending it into a protruding bag. The further dilatation was accelerated by Barnes's bag. After several hours' further delay, the pains proving inefficient, forceps delivery was resorted to. The child was found to have a spina bifida sac which had ruptured. Of course the child was still-born. The mother made a good recovery. After the ease with which the os was dilated, it cannot be said there was any rigidity. Hence the only condition I could bring to my aid in explanation of this unusual circumstance was: Atony of the lower segment of the uterus.

Yours truly,

J. J. E. MAHER, M.D.

213 WEST TWENTY-THIRD STREET.

A USEFUL OBSTETRICAL SUPERSTITION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Some time since the writer was chatting with a well-known practitioner of this city, who said, "There are two classes of patients who will beat you out of your fees whenever they can—fellows with venereal disease and parents with babies. I have lost about as much from cases of labor as from any other class."

As the writer has a small practice in obstetrics, he pondered upon the remark of his confrère and sought a proper remedy for the disease. A case for treatment soon presented itself in the persons of two plausible parents, who sought the writer because they "had heard of his skill, and had been strongly advised by their friends to come to him," etc. Taking it all in, the writer consented to deliver the mother.

Night of delivery, all things *secundum artem*.

"Doctor, it is not quite convenient to pay you tonight, but if you will kindly wait for a week, it will be all right then." "Oh, certainly, it will be quite as convenient then, for I never lose any money on my obstetrical cases." "Indeed, how so? Why not?" "Oh, because it is getting to be a well-established superstition, based upon facts, that 'Parents who allow their baby boy to start in life with a debt on his head the first thing are sure to have a ne'er-do-well, shiftless son, and the little baby girl is sure to marry a dead-beat.'" A peculiar expression came over the father's face, and the mother gave an anxious, wandering look at her baby. Half the bill was paid at the next visit and the rest soon after.

The writer is careful to repeat this obstetrical superstition whenever he can, and always to prompt paying patients, who are congratulated that nothing of the sort awaits their little one. These are the ones who spread the good news.

G. E. A.

VACCINE LYMPH IN TUBERCULOSIS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: An article by J. Hilgard Tyndale, M.D., published in the MEDICAL RECORD for July 18th, renews a hope that I have long felt, that the above agent might find its proper place in the therapeutics of pulmonary tuberculosis. Some two years since [it was in the issue of April 24, 1886.—ED.] I called the attention of the readers of the MEDICAL RECORD to this subject, and about the same time wrote to the late E. Darwin Hudson, M.D., detailing some cases treated, and urging him to experiment in his ward in the Bellevue Hospital. So far as I now know, vaccine lymph was first used for the above purpose by my brother, H. W. Taylor, M.D., now of Anderson, Ind. We jointly performed about fifty inoculations between the years 1876 and 1880 with varying success. The majority of these cases were decidedly benefited thereby—some permanently, others for a longer or shorter period. My brother was very firmly persuaded of the virtues of this agent, ranking it higher than any other. On his abandoning practice a few years after the date mentioned, active experimentation ceased; largely on account of the criticism it met with at the hands of those practitioners who continue the ordinary routine treatment with the usual results, and who fail not to hold up their hands in horror in the presence of such empiricism, regardless of the fact that the remedy heretofore the most potent in the treatment of tuberculosis is a purely empiric one, and regardless also of the fact that

the desperateness of the malady justifies any treatment that promises cure or a prolongation of life. I own that the reason given above for limiting my investigations is not such as challenges much respect; but I have long since recognized the fact that my fibre is not such as martyrs are made from, and, like the great majority, I prefer to sail over smooth seas and before gentle winds, rather than to buffet with white caps and roaring tempests. In spite of opposition, however, I have continued to use the vaccine lymph, in carefully selected cases, down to the present time.

Formerly we used the lymph in the ordinary manner; but of late I have used it hypodermically. When it "takes," in the characteristic manner, it scarcely ever fails to produce a change for the better, more or less pronounced; but unfortunately this is not always attainable. Many times, however carefully the inoculations are made, no effects are produced, the lymph being worthless. Now and then it contains septic matter, and very unpleasant local symptoms are produced.

The precise nature of the virus ought to be determined, if possible, and if it is a germ, pure cultures ought to be made, and the lymph prepared only from them. If it be a leucomaine, it ought to be freed from the presence of the dangerous ones. In fact, the production of lymph for purposes of inoculation ought to be in the hands of an elaborator, whose knowledge and skill are equal to the demands of the day.

In conclusion, I will say that if thoroughly treated, under the proper conditions, it will be found that vaccine lymph will do all that Koch's does, while the objections to its use cannot be so many nor so valid.

JOHN N. TAYLOR, M.D.

CRAWFORDSVILLE, IND.

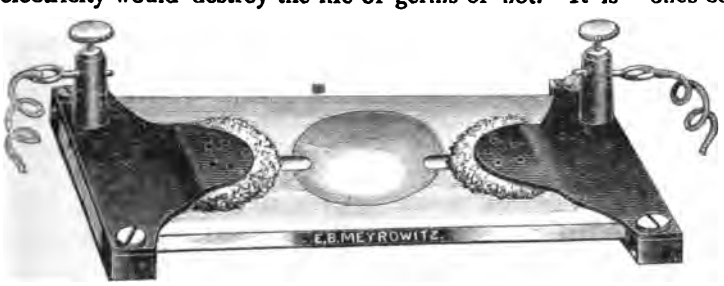
New Instruments.

ELECTRO-MICROSCOPIC SLIDE FOR TESTING THE ANTISEPTIC POWER OF ELECTRICITY.

BY R. L. WATKINS, M.D.,

NEW YORK.

I REPRESENT in the accompanying cut an instrument devised by myself for the purpose of ascertaining whether electricity would destroy the life of germs or not. It is



the result of a number of experiments to confirm the belief I have long held, that electricity is an antiseptic and disinfectant, and it was while I was engaged in these experiments that I discovered that Apostoli had made the same claim. The instrument consists of a glass slide, in the centre of which is a sunk cell. Two grooves, each three-fourths of an inch long, run from the sunk cell outward. Two brass pieces are fitted over the extremities of the slide in such wise that their rounded points, the under surfaces of which are lined with platinum, will cover a portion of the grooves. These rounded points should not touch the glass, but should be raised above the grooves about one-eighth of an inch. Binding-posts are riveted to the brass for connection with a battery. In order to apply the instrument a sufficient quantity of the fluid containing the bacteria should be used to fill the sunk cell and grooves. A cover glass is placed over the sunk cell and its contents. Two small, clean sponges saturated with either the fluid or distilled water, are then placed underneath the platinum points and in contact with the fluid in the grooves. The bacteria are now ready for observation; the electricity is turned on and the quanitty required to stop all signs of germ life noted by the milliampère metre. They can now be cultivated on gelatine in the ordinary way, if desired, to determine whether their vitality has been entirely destroyed. Other uses for this slide will readily occur to one working in this field, *e.g.*, the effect of electricity on blood and different tissues. I have found this instrument very satisfactory, not only as an easy, but as a quick, way of finding out the amount of electricity required to destroy these micro-organisms.

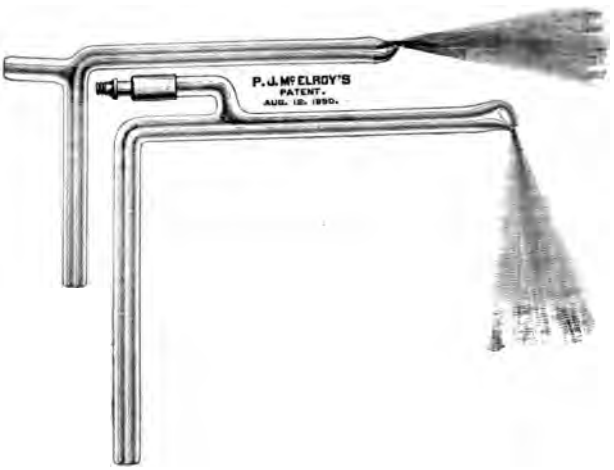
320 WEST 145TH STREET.

A NEW ASEPTIC ATOMIZING TUBE.

BY R. WETHERBEE, M.D.,

CAMBRIDGE, MASS.

SOME few months ago I was in the glass factory of P. J. McElroy, East Cambridge, Mass., and he gave me a set



of atomizing tubes for me to try in my practice which he had been experimenting on for a long time and at last had just succeeded in perfecting. All the tubes I have ever seen or used have their faults. The hard-rubber ones could not be used with all liquids; the glass ones with two tubes cemented or wired together were large and clumsy and all the time getting loose or separated.

This atomizer is a single glass tube with two holes through it. The bore of the liquid passage runs parallel with the air-passage and is drawn at the end to a point in such a manner that the liquid and the air come together as in an ordinary atomizing tube and forms a spray, either coarse or fine, and they can be made to throw the spray in any direction needed, the same as other glass tubes now in use. These tubes have a great advantage over all others, they are much stronger and can be kept perfectly clean. They are as small as any hard-rubber tube and being all made of annealed glass they can be boiled in water or immersed in any liquid without injury, thus making them perfectly aseptic. They can be obtained from Codman & Shurtleff, Boston, Mass.

Coffee-Drinkers in Europe.—According to a calculation published in the *Lancet*, but for the accuracy of which that journal will not vouch, the Dutchman drinks on an average 16½ pounds of coffee per year; the Belgian about half that quantity; the Norwegian about 6¼ pounds; the German about 4¼ pounds per head, being about two pounds more than the Frenchman, who has the reputation of being a great coffee-drinker; whereas, according to statistics lately taken, the Englishman consumes only half a pound a year, and the Russian one-fifth of a pound.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 23, 1891, to August 29, 1891.

PILCHER, JAMES E., Captain and Assistant Surgeon. Relieved from duty at Fort Clark, Tex., on expiration of leave of absence, and is assigned to duty at Fort Ringgold, Tex.

POLHEMUS, ADRIAN S., Captain and Assistant Surgeon. Leave of absence granted for one month, to commence on or about September 3, 1891.

WYETH, M. C., Captain and Assistant Surgeon. Sick leave of absence extended three months on surgeon's certificate of disability.

HAVARD, VALERY, Major and Surgeon. Granted three months' leave of absence, to take effect on or about September 5, 1891.

Official List of Changes in the Medical Corps of the United States Navy for the week ending August 29, 1891.

HESLER, F. A., Passed Assistant Surgeon. Detached from the Pensacola and ordered to the Charleston.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 29, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	41	15
Scarlet fever	62	9
Cerebro-spinal meningitis	2	2
Measles	52	3
Diphtheria	73	22
Small-pox	0	0
Varicella	0	0
Pertussis	1	1
Erysipelas	0	0
Mumps	0	0
Rötheln	0	0

The Tetaniferous Man.—Verneuil applies this term to the individual who carries the virus of tetanus around on his person, although unaffected by the disease himself. The author discusses the causes and means of prevention of this affection from a clinical stand-point. If one considers the horse, with its secretions, excretions, and surroundings, as all capable of propagating tetanus, we cannot regard as impossible, infection by the secretions and excretions of man. The tetanic property of equine saliva has been demonstrated. The saliva of a human being may, for the time being, contain tetanus germs, and thus a bite from such an individual may cause tetanus. A case is given illustrating this. The secretions and excretions are only infected by the ingesta, so that the sperm, milk, and urine are never infected with the virus. He says: "I have already admitted, and now I admit more than ever, that a surgeon who has dressed a tetanoid patient may communicate the disease to other patients. I also admit that any person whatever, but above all a physician whose hands have been in contact with a horse, not tetanic, but simply tetaniferous, may infect the wounds of his fellow-beings, as in the cases cited. I also admit, finally, that such a man is not only dangerous to those whom he approaches, but may even give himself tetanus by auto-inoculation, either by wounding a part of the skin impregnated with the virus, as the plantar and palmar regions, or touching a wound on any part of his body with his impure hands." Two cases follow, in which he traces the cause to a wound inflicted on the skin, which was previously infected with the tetanic virus. The bacillus of Nicolaier was found in one of these cases. Three additional cases are given with a very careful analytical study of each.—*University Medical Magazine.*

The Medical Aspects of Marriage.—It is only right that medical men should have something to say upon the expediency of a marriage taking place between two persons in particular instances, but it is altogether doubtful whether, having pointed out the undesirable nature of a union upon physiological or pathological grounds, this advice would be adopted. There is no such thing as "future" with persons who have newly plighted their troth, they are too much absorbed in contemplating and revelling in the present. "The things that are" afford them all the satisfaction that they require without, in their opinion, demanding any consideration with regard to the things that might be. This state of affairs may be the natural outcome of those irresistible forces which are so egregiously prominent in the causation of marriages, but however this may be, the fact remains that the union of two persons is oftentimes inexpedient upon medical grounds. For example, no marriage should take place between persons having the same hereditary tendency to disease, a prohibition which is especially important in contemplated marriages between relatives. Again, it is perhaps very doubtful whether a hapless person, the subject of constitutional syphilis, should marry, or one with a well-marked tubercular taint, or one in whose family insanity is a distinguishing feature. Common experience, however, very fairly indicates that none of these conditions would be likely to interfere with the "understanding" arrived at by two persons who had determined to enter the sphere of matrimony, and medical men have, therefore, very little chance of pointing out deficiencies in such arrangements, even when these are palpable.—*Medical Press.*

Away with the Cigarette.—The *Annals of Hygiene* states that the Legislature of Michigan has recently passed a bill making it a misdemeanor, punishable by fine and imprisonment, to manufacture or sell, give or deliver, cigarettes of any kind of tobacco, or cigarette paper in books, or blocks for wrapping cigarettes.

BOOKS RECEIVED.

PRACTICAL PATHOLOGY AND MORBID HISTOLOGY. By Heneage Gibbs, M.D. 8vo, 320 pages, illustrated. Price, $2.75. Lea Brothers & Co., Philadelphia, Pa.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK FOR THE YEAR 1891. 8vo, 560 pages, illustrated.

TRANSACTIONS OF THE TEXAS STATE MEDICAL ASSOCIATION. Twenty-third Annual Session. 8vo, 278 pages.

ON PAINFUL MENSTRUATION. The Harveian Lectures, 1890. By Francis Henry Champneys, M.D. 8vo, 88 pages, with table. H. K. Lewis, London.

THE VEST-POCKET ANATOMIST. By C. Henri Leonard, M.D. 12mo, 297 pages, illustrated. The Illustrated Medical Journal Co., Detroit, Mich.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF CALIFORNIA. Session of 1891. 8vo, 361 pages.

INDEX-CATALOGUE OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE UNITED STATES ARMY. Authors and Subjects. Vol. XII. Reger-Shuttleworth. 4to, 1004 pages.

REPORT ON THE CHOLERA IN EUROPE AND INDIA. By Edward O. Shakespeare, M.D. 4to, 945 pages, illustrated.

Medical Record

A Weekly Journal of Medicine and Surgery

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Original Articles.

AN ANALYSIS OF SEVEN HUNDRED AND FIFTY CASES OF RECTAL DISEASE IN PRIVATE PRACTICE

BY CHARLES B. KELSEY, M.D.,

NEW YORK.

THE following cases are taken almost exclusively from private practice, and the large majority of them from the upper walks of life. As a group they represent the diseases of people in comfortable circumstances, able to consult a specialist upon the first appearance of trouble. The relative frequence of the different affections may therefore be expected to differ somewhat from that observed in hospital or dispensary practice, among patients who have no time to be sick till compelled to seek help by suffering. They may be classified as follows:

Hæmorrhoids	262
Fistula	75
Fissure	52
Pruritus	51
Cancer	45
Non-malignant ulceration	40
Non-malignant stricture	39
Neuroses	32
Prolapsus	27
Abscess	22
Rectal and intestinal catarrh	18
Polypus	16
Constipation and atony	13
Impaction	7
Proctocele	6
Incontinence of fæces	5
Intestinal obstruction	5
Perityphlitis	4
Lacerated cervix	4
Esthiomène	4
Bleeding	3
Foreign bodies	3
Misplaced ovary	3
Invagination	2
Cystocele	2
Recto-vaginal fistula	2
Pelvic cellulitis	2
Pæderastia	2
Paralysis of rectum	1
Recto-vesical fistula	1
Purulent proctitis	1
Condylomata	1
	750

Comparing this table with Allingham's table of 4,000 cases from St. Mark's Hospital, which has so long stood as a standard, some remarkable differences appear at once. In that table piles compose only twenty-four per cent. of the total, while in mine they make up over thirty per cent. Again, in that table fistula composes nearly thirty-four per cent., while in mine it is only ten. This difference may be readily accounted for in two ways: First, by the fact that St. Mark's Hospital is a hospital "for fistula and other diseases of the rectum;" and, second, by the difference between public and private practice. Allingham himself says he has more piles than fistula in private practice, many of them being mild cases such as a patient in the lower walks of life would not consult a surgeon for.

Another marked difference in the relative proportions is seen in what I have grouped under the general head of neuroses. In my private practice these amount to about four per cent., while in Allingham's tables they are only 20 in 4,000.

Hæmorrhoids.—Considering now these cases more in detail, I find that of the cases of piles, fifty-two of the internal variety which were prolapsing and large enough to require operation were removed by the clamp and cautery. Concerning this operation I am very enthusiastic. Its rapidity and ease of performance, its perfect safety when properly done, and the freedom from pain which follows it, leave in my own mind little to be desired.

Regarding a single case of bleeding, showing itself as soon as the patient recovered from the ether, it is only necessary to say that it was from a cutaneous vessel cut in the groove made for the clamp, and not from the stump of the pile, and could have easily been controlled by a pad of lint and bandage had not the nurse lost her head and sent for another doctor near by, who preferred a ligature to a compress. Other hemorrhage than this I have never encountered, nor do I see how it can occur except by failure to thoroughly cauterize the cut surface held by the clamp. Of course, secondary hemorrhage may occur on the separation of the eschar, as it may with the ligature, but neither is to be feared.

Concerning the other operations for piles, making one hundred and three in all, there is nothing of interest. In fact, the only unsatisfactory case I have ever had in the treatment of this disease came from my use of carbolic acid injections, not included in this collection. Whitehead's operation I have never employed, and never shall till I am convinced that we do not possess in the clamp a much better one for the same class of severe cases.

Fistula.—Of the seventy-five cases of fistula, only the more unusual varieties possess any great interest. Of these there have been several, some of which had been operated upon several times before coming under my care. The interesting cases may, in fact, be distinctly divided into the following groups: 1, Those having an opening into the bowel, but none on the cutaneous surface; 2, those having multiple tracks, all of which have not been cut at a previous operation; 3, those the division of which involves loss of power in the sphincters, and hence incontinence.

The first group, generally known as blind internal fistulæ, has been chiefly interesting from a diagnostic point of view. I may say, in passing, that they are not at all uncommon, and are much more frequent now than before the popularity of injections as a cure for hæmorrhoids. The fluid injected into the hæmorrhoid not infrequently produces a slough along the course of the needle and beyond it. If this be large and involves the mucous membrane over its whole extent an ulcer is left, which usually heals kindly and results in a cure of the hæmorrhoid, at least for three or four years. But if the sloughing be limited to the track of the needle and the tissues immediately surrounding the fluid, it may involve the mucous membrane only at the point of puncture, and the patient is left with a blind, internal fistula—a much more painful and serious condition than that for which he was treated.

In one of my own patients I cut four of these fistulæ caused in this way by carbolic acid injections, and I have operated upon several coming from the practice of others. This complication was, in fact, one of the reasons leading me to abandon the use of injections, being simply an example of what is, I believe, a general law—that the amount

of inflammation which may be caused by introducing an irritant into a vascular tumor can neither be foretold nor limited.

In the diagnosis of these cases the one prominent symptom is pain—constant pain, but increased on defecation, and apt to be attended by numerous reflexes in the loins, genitals, and thighs. Physical examination reveals the opening of the fistula as shown by a point of ulceration, or the induration of the track leading away from the orifice. The treatment consists in laying the track completely open.

In the second class of cases, those of several tracks not all of which have been laid open, the diagnosis and treatment are equally simple. There has been much discussion as to whether some tracks will heal after others have been cut, but much the surest rule in practice is to divide them all. This is my invariable practice. I can imagine a fistulous track with which I should not care to interfere, but I have never seen one, though I have had some cases in which the disease was so extensive and the openings so numerous that all could not be divided at one time, for fear of the resulting constitutional depression. In such a case the injection of the tincture of iodine into the undivided tracks sometimes gives excellent results.

In the third class of cases, those in which a complete operation involves the danger of destruction of the sphincters, I have had an interesting experience, both in operating on the original disease, and in repairing the anus after incontinence has resulted from the operations of others. Of the six cases of incontinence included in this table four have been from operations for fistula, one from an old lacerated perineum, and one from the excision of a benign stricture. Of these the lacerated perineum and two of the fistulæ were completely cured by operation; the one resulting from the excision remains to be operated upon, and can easily be cured; one of the fistulous cases is now under treatment, and the last refuses operation, because, although he has no sphincteric power, he still has no trouble. In him the lower two inches of the rectum is converted into an open cicatricial tube easily admitting two fingers, and closed at the upper end by overlapping folds of mucous membrane. The function of defecation is, however, so naturally and regularly performed that he really has no need of a sphincter. At a certain hour every morning he feels warning of an approaching defecation, goes in the closet and relieves himself, and is through for twenty-four hours.

The case of lacerated perineum was an interesting one, the lady having been confined to the house for the incontinence for twelve years. After the birth of the child she was operated upon three times for the perineum, and superficially this was perfectly restored—only the fibres of the sphincter ani being unrepaired. She was a sufferer also from chronic intestinal catarrh with diarrhœa, and a certain amount of rectal prolapsus from lack of support to the parts. Visiting a celebrated physician for her chronic diarrhœa, she described to him the accident following the birth of her child, and without any examination he pronounced the condition incurable. This opinion from such a source seemed to her final, and for twelve years she wore a napkin and lived adjacent to a bath-room. It is hardly necessary to say that a few sutures restored the sufferer to the enjoyment of life.

In attempting to remedy the condition of the sphincter in these cases of incontinence following operations for fistulæ there are two guiding principles to be observed. The first is to try by a plastic operation to vivify and unite the parted edges of the divided sphincter, on exactly the same principle as in the operation for lacerated perineum. The second is only to be considered after the failure of the first, and consists in making an artificial stricture at the anus with the thermo cautery, without any particular regard to the true physiological action of the sphincter muscle. By one or the other of these operations almost all cases of fecal incontinence resulting from operations for fistula may be cured. The operator should, however, allow himself plenty of leeway in prognosis. Two or three attempts are often necessary to secure a final satisfactory result.

In all these cases of complicated fistulæ in which the division of all the tracks involves more than one division of the sphincters, the operation should be carefully considered before the patient is under ether, in order that the least possible injury to the parts consistent with a radical cure may be inflicted. As a rule, all fistulæ, no matter how complicated, may be laid open and made to communicate with a single incision through the sphincters. This presupposes ingenuity and skill on the part of the operator, but it may still generally be done, and a single incision of both sphincters (especially if posterior and median) does not generally lead to incontinence. I cannot in a report like this go into all the details of this operation, more especially as I have recently done so in this journal. But I may state the following rule: In operating on complicated fistulæ, make first a single incision through the sphincters, involving the main internal orifice. Then lay the secondary tracks open into this one, without again cutting the muscles, and as a rule no incontinence will result.' One of the worst cases included in this table was that of a woman in the care of a general surgeon who, in dispensary practice, had had a large experience in this class of cases. Recognizing at once the danger of any ordinary operation for this particular case, he asked me to see it. The patient had had an abscess of the gland of Bartholini on each side, and each had opened into the rectum. Between the two rectal openings a cross-communication had formed with more than one secondary track. It was evident that division of the tracks meant a double complete division of the perineum, from the upper part of each labium majoram through the sphincter ani. A modified operation was done. A probe was introduced into each labial orifice, carried down to the anus, and brought out through the skin, so that the course should not implicate the sphincters. Through these tracks ligatures were passed and loosely tied as setons. The remainder of the tracks were then divided and made to communicate with a single incision through both sphincters, anteriorly. These last incisions healed promptly and cured all the tracks except the two in the perineum, in which the setons remained. These were left in until healthy reparative action had been set up, and then cut and withdrawn, with the result of a perfect cure and complete control; while by the ordinary operation a double division of the female perineum and of both sphincters, and hence an almost certain incontinence of fæces, could not have been avoided.

Abscess.—An examination of the table shows twenty-two cases of abscess, with sixteen operations. This includes only the cases independent of fistula—abscesses treated as such, some of them deep in the pelvis, and not those in which fistula had resulted before being seen.

Several of these cases have been very interesting. One of the early ones I only saw after it had caused the death of the patient from retention of urine. It was a large peri-rectal phlegmon which had been punctured on the surface a week before death, and was discharging freely. The man died in a convulsion with over-distended bladder and engorged kidneys.

Three were caused by injections of carbolic acid into hæmorrhoids. Of these two were slight, situated at the verge of the anus, and containing perhaps a drachm of pus each, while the third was a severe case of periproctitis with glandular enlargements in both groins, and swollen pelvic lymphatics. Fortunately the inflammation became circumscribed in the left side of the deep pelvis and a large quantity of pus and sloughing tissue could be evacuated through a free incision in the buttocks. The patient finally recovered. There were four other cases of deep pelvic abscess: one in a child of four years, breaking spontaneously into the rectum; one between the bladder and rectum, also discharging spontaneously

through the latter; and one in the hollow of the sacrum which I cut through the buttock, after decided tenderness had shown itself in the right iliac fossa. All of these eventually recovered, though all were slow in healing.

In this list is also included one case of pelvic abscess in a woman, probably in the left broad ligament or tube. The diagnosis was confirmed by aspiration through the abdominal wall, and the pus was evacuated by an incision through the vagina.

Perityphlitis.—Three of the four cases of perityphlitis may properly be included among the abscesses, as in them the disease had gone on to the formation of a circumscribed collection of pus, which was safely evacuated by abdominal incision. In none of these was any accurate diagnosis as to the exact pathological condition attempted, the abscess being simply opened through the abdominal wall and allowed to heal from the bottom. One of these healed kindly, a second required a subsequent opening through the rectum and drainage, but after this recovered; and a third never healed while under my care, but had one collection of pus after another, and one attack of acute general peritonitis, finally disappearing from my observation in a general hospital. The fourth case included under the head of perityphlitis was one of general suppurative peritonitis, from perforation either of the appendix or cæcum—which one not being accurately made out by the autopsy. It was a case seen by me in consultation, at a considerable distance from New York, and the patient was dying and beyond the help of laparotomy on my arrival. The autopsy was made by his physician, and perfectly established the diagnosis, but not the exact origin of the trouble.

Prolapse.—The twenty-seven cases of this class represent almost all degrees of the disease, from that of slight extent to masses the size of the fist which have come down and become strangulated. All of the thirteen operations performed have been either by linear cauterization alone, or by the method which I prefer, the clamp and cautery, used in very much the same way as in an ordinary case of extensive hæmorrhoids. Van Buren's operation of linear cauterization sometimes fails, but I have never known the clamp and cautery combined to do so.

Some of these cases, and pretty extensive ones, have been cured by the much simpler method of finding and removing the polypus upon which they depended.

Polypus.—The sixteen cases of polypus, with fourteen operations, include, I think, every variety of this affection, the hard and soft, single and disseminated, in children and in adults, except the insignificant form which is found associated with old hæmorrhoids and fissures, and which are snipped off at the time of the operation without much thought.

One has to learn by experience how severe a rectal catarrh may be caused by a very small warty growth. I have seen a little tumor, not larger when engorged with blood than the end of the index-finger, bring a patient nearly to the grave with suffering—diarrhœa, tenesmus, and hemorrhages; and have seen the mucous membrane of the whole rectum softened, flabby, and bleeding on the slightest touch, from the irritation it had caused. When removed and collapsed, it seemed impossible so small a thing should have made so much trouble; but there was no other disease, and the diagnosis was confirmed by the speedy restoration of the patient to health. Three or four such tumors, only smaller, may be found at the same time—so small that they have to be scraped off with the finger-nail or dull curette; and when such a patient complains of severe rectal catarrh, these may always be regarded as a sufficient cause—at least such has been my own experience.

One of the most unusual cases I have ever seen was in a lady of middle age, suffering from a benign, but recurrent, papillomatous growth, springing from a section of the posterior rectal wall, the size of the palm. This whole area was covered with tumors, soft, friable, branching, breaking down easily under the finger, and each having its independent stem. Hemorrhage was never a marked symptom, but after removal with the curette they rapidly grew again, and when the patient imagined they had become so large as to obstruct the passage of fæces (which in reality they were too soft ever to do) they were again removed. Scraping, and the application of nitric acid never at all interfered with their rapid return, and about twice a year for several years they were removed with the dull curette. On each application of the instrument enough would be removed to fill a two ounce bottle. The patient died of an intercurrent affection, and though the rectum was sent me for examination, the growths had all been rubbed off by handling, and I could hardly distinguish by any changes the part of the rectal wall from which they had so frequently sprung.

Fissure.—Of the fifty-two cases of fissure, little need be said, except that about one-third of them were cured by simple applications of weak solution of nitrate of silver (grs. v. to x. to ℥ i.) on a camel's-hair brush. Where operations have been performed I have universally practised incision in preference to forced dilatation, and have never known it to fail to give perfect satisfaction.

Pruritus.—Of the fifty-one cases of pruritus, the majority have yielded to the ordinary line of treatment. Where an obstinate case is associated with hæmorrhoids, I have found the quickest way of overcoming the itching to be to operate upon the piles; and in old cases, attended with infiltration of the skin of the anus and hypertrophied tags, I have become a firm believer in taking off the tags with the thermo-cautery as a radical means of reducing the infiltration and exciting a healthy reparative action. Where such treatment as this is not indicated, applications of nitrate of silver, one or two drachms to the ounce, have answered well.

Cancer.—Considering now the forty-five cases of cancerous disease, we find much of interest. In the first place the proportion of cases is much greater than in Allingham's table, which I take to show merely that in private practice more serious than slight cases seek consultations. In Allingham's collection there are only 105 cases to 4 000 in dispensary practice, while mine shows nearly half as many in 750. His probably presents much more accurately the relative frequency of the disease than mine. Of these 45 cases, 22 had advanced so far as to allow of no interference except colotomy, and this was declined; in 5 colotomy was done; in 4 a posterior linear division of the mass; and in 3 extirpation. In 5 more an extirpation was possible, had the patient been willing; but many of the sufferers come to me simply for confirmatory diagnosis, and with no idea of treatment. I have not been surprised in the past at the number of patients who have calmly submitted to the inevitable in this disease, because for some time I was not inclined to hold out to them any great hopes, either from colotomy or extirpation; but as my own views on this subject have gradually changed, and as I now strongly recommend either one operation or the other in every case as soon as seen, I find I am operating on a larger percentage of the cases seen. I used to think colotomy offered little of comfort, but watching the agonizing course of a single case from its early diagnosis till its end in complete obstruction and rupture of the bowel, convinces me that anything was better than such passive helplessness. This particular case began in the prostate and only involved the rectum secondarily, so that it was never suitable for extirpation; but there were many weeks when an artificial anus would have given untold relief of suffering. In this case also the operation could not long have prolonged life, for at the time of the fatal obstruction the disease had involved both the mesentery and the liver; but even then it should have been done to relieve pain.

Proctotomy in malignant disease I have abandoned, because in the first place it can, in the nature of things, give only very temporary relief, and in the second, two out of four of my own cases have ended fatally as a result

of the operation. In both the patients were much exhausted by the disease, but I believe the shock of a rapidly performed inguinal colotomy would have been less.

Extirpation I still confine pretty much to the old limits —cases where the entire disease can be removed, and where I have no reason to suspect glandular involvement —in other words, to cases seen early, while the mass is still movable. The length of bowel involved is not a matter of so much importance, as opening the peritoneum seems to add but little to the risk of the operation, and by some modification of Kraske's incision almost the entire rectum can be reached.

I have also abandoned the old idea of postponing colotomy till signs of obstruction appear, for though I cannot prove that early operation delays the growth, I think it more than probable; and knowing that an artificial anus is not a thing to be dreaded in itself, it seems best to give the patient every possible advantage which may be gained by it. Moreover, it is impossible to tell how suddenly, and with how little warning, complete obstruction may set in. In one of my cases of stricture, not malignant, the patient (a physician, able to watch the course of his disease intelligently) and myself had many deliberate discussions as to just when I should make the artificial anus which we both knew to be inevitable. There seemed no hurry, though he was much constipated, and only relieved himself by purgation once a week. In the midst of our deliberations he purged himself once too often, and died in collapse from rupture of the weakened intestine. It was simply a valuable life sacrificed to the old and false dread of an artificial anus, for with an opening above the disease there was no reason why he might not have lived comfortably until he died of something else.

Another case, ending in the same way, taught me much. This patient was also a physician, and apparently in robust health; in fact, his magnificent physical development seemed to belie the possibility that the obscure symptoms he complained of could really portend a sudden death within a few weeks. The symptoms were soreness deep in the left iliac fossa, increased on defecation, and the occasional appearance of a little blood in the stools —nothing more. He had slight hæmorrhoids, but was sure the bleeding did not come from them; they were, however, removed, and after ten days he reported himself much better, then almost immediately after as bad as ever. A No. 7 rectal bougie passed easily the whole length (twelve inches), and showed no obstruction, and nothing but some fecal masses in the upper part of the sigmoid flexure could be felt through the pelvis. Dr. Janeway, who first saw the case, was guarded in his opinion, and gave no prognosis or diagnosis. For my part, though I told the patient a diagnosis was impossible except by exploratory laparotomy, I recommended no such measure, being much inclined to attribute the symptoms to intestinal catarrh of a simple form. He left New York for his home in the South, and in a few weeks we heard of his sudden death from obstruction, and on autopsy an annular cancerous stricture was found in the sigmoid flexure. Whether between the time of his leaving the city and his death any symptoms developed which would have made a diagnosis possible I do not know.

The case impressed upon me the great desirability of more accurate methods of diagnosis of stricture high up in the rectum. I believe they ought to be detected with the same accuracy as in stricture of the urethra, but I have not yet succeeded in accomplishing it, though still experimenting with bougies of various construction. I think this single case did more to teach me caution in diagnosis in disease beyond the reach of the finger than any I have ever met; though one other which came to me from the South with the same symptoms, only more marked, and with the diagnosis of cancer already made, in the expectation that I would do a colotomy, became entirely well a few months later by a simple milk diet. The six inches more or less of gut between the finger in the rectum and the fingers pressing into the pelvis, often make the physician feel his helplessness.

In the matter of diagnosis of cancer of the rectum, when the disease is within reach, the only thing that has ever troubled me has been to distinguish by touch between an old fibrous induration and a cancerous mass. Without the history of the disease to help, I do not know that even now I can always do it. The gut is blocked in either case by hard nodular masses of tissue, and the patients have much the same general appearance. But cancer has a peculiar stony, unyielding hardness that helps to diagnosis, and patients do not say the condition has existed for perhaps ten years. They are much more apt to say they were perfectly well till about six months before, when they first began to notice difficulty in defecation. I don't know that I have ever mistaken these two conditions, but I can imagine a case in which I should not be willing to commit myself without a microscopic examination and time to watch the development of the disease.

Intestino-vesical Fistula.—In one of the cases of cancer of the rectum there was an opening into the bladder. The exact point of communication was not made out, but as the rectum was full of carcinoma, and the opening evidently low down in the intestine, it seemed but fair to presume that the communication was recto-vesical. The patient was in a miserable condition when placed in hospital, but rapidly improved after inguinal colotomy.

Non-malignant Stricture.—Of non-malignant strictures there are thirty-nine in this collection of cases, which I have grouped under the following heads: Venereal, 11; congenital, 1; traumatic, 4; tubercular, 2; dysenteric, 1; spasmodic, 1; arising from simple ulceration, 9; due to the pressure of the exudation in old pelvic cellulitis, 1; doubtful or undetermined, 9.

The point which first challenges attention in this arrangement is that in thirty-nine strictures which were non-malignant, only eleven can be definitely stated as venereal.

I really sympathized very heartily with a patient who came to me some months ago with a most interesting case of rectal disease. She had had stricture for years, and it had recently been excised, as near as I could learn, during an attack of complete intestinal obstruction caused by it, with an excellent result, except that there was complete fecal incontinence, which I proposed to remedy. In getting her history she, without questioning, gave me all the information which usually has to be gained by careful cross-examination, and ended with the remark: "Now I suppose, of course, you will say it is syphilitic, for every doctor I have ever had has said it must be, as long as it wasn't a cancer; and when I tell them I have never had syphilis they only look as though they thought I lied, but I never *have*." I have no doubt that she not only told the truth, but also was well able to judge of what she was talking about; and yet she very accurately expressed the prevailing idea in our profession, that strictures of the rectum not malignant are syphilitic, an idea which is often quite erroneous. It will be seen that even in the eleven grouped under this head I have intentionally used the word *venereal* instead of syphilitic, believing that, though secondary ulcerations and tertiary deposits do occasionally occur in the rectum and cause stricture, chancroidal ulceration and sodomy may do the same. In estimating the percentage of these cases, however, it would be well to bear in mind that these figures are taken entirely from the better class of society, and that of thirty-nine non-malignant strictures in dispensary practice a much greater proportion would probably be venereal.

This is not the place to discuss a question of pathology, but I cannot let slip an opportunity to beg for more careful clinical study of these cases by those who meet them in practice. If a few men would only study them a little more closely the profession would be the wiser, and we should soon know how many strictures of the rectum are due to chancre, how many to chancroid, how many to

secondary syphilitic ulceration in the rectal pouch, and how many to the later gummous deposit.

Passing this important question by with these few hints, we will go on to a more minute consideration of some of the cases.

I cannot say that I have ever seen a patient with cancerous stricture of the rectum get well, but I have certainly seen something very remarkable in this line.

The patient was a medical student in his second year of study, in perfect health till eight months before he came to me, at which time he began to pass blood, and supposed himself to be suffering from dysentery. This soon ceased, and three months later he discovered a growth in the rectum, three inches from the anus, which was sufficiently marked so that he had a piece of it cut out for microscopic examination, but on account of its poor preservation he received no report from the pathologist. He was next examined by Agnew, of Philadelphia, and pronounced to have cancer. Sands, of New York, concurred in this diagnosis about the same time. He then seems to have placed himself in the hands of both L. A. Stimson and myself. I declined to commit myself to cancer, and Stimson put him in hospital for examination under ether. At this examination I was invited to be present, and a distinct stricture was unmistakable, beginning at three and a half inches from the anus, and composed of small, nodular papillary growths. One of these was cut out and examined by Dr. Stimson, and in a verbal communication (I think I express his idea correctly) he said that, though he could not say the thing was then malignant, he had little doubt that it would soon become so.

Well, the young man, only twenty-two, was full of fight and determined to fight for his life. Having read in his text-books that arsenic might do good in malignant disease, he proceeded forthwith to poison himself with this drug. While I taught him how to use systematic dilatation, he took on his own responsibility immense doses of Fowler's solution, saturating himself with it again and again for over a year. This was in May, 1886. I examined him a few months ago, and he was practically well. There was no stricture, and only slight induration in the rectal wall at the site of the disease. I find in looking at the case in my book the word "cancerous" stricture has at some time been scratched out. Probably, were the diagnosis to be written again, it would be papillomatous growth in the rectum.

Four of these strictures have been of the anus, and not of the rectum, and have been caused by the removal of too much mucous membrane in the operation for piles. At least two longitudinal strips of membrane, half an inch in width, should be left on opposite points of the anus in every such operation. There is then no danger of undue contraction. All of these cases yield readily to gentle dilatation if it be properly employed. After the wounds have entirely healed, even if the anus be not large enough to admit the little finger, I begin by using a short, hard-rubber, straight stem, similar to what is used in the uterus, and of a size small enough to be introduced and left without causing the slightest pain. No matter if the size be no greater than that of a lead-pencil, after introducing it a few times on going to bed the patient will say he can bear a larger one, which may be substituted. In the course of a few weeks a bougie the size of the index-finger can be worn for hours without pain, and the stricture will not recontract. The secret is to employ almost continuous dilatation, and never to try stretching. By continuous dilatation I mean putting in an instrument on going to sleep and finding it there on waking in the morning, without having been conscious of its presence. This, by the way, is the secret of all success obtained in treating strictures of the rectum by bougies. An instrument which causes pain by its introduction invariably does more harm than good, while one which can be introduced and retained without suffering almost invariably does good, if worn for sufficient length of time.

These strictures of the anus after any of the operations for piles are not uncommon, nor are they serious when properly handled in this way. The only mistake I have ever made in dealing with them was in the first one I ever saw, where I used too forcible dilatation, and for a time made the patient worse instead of better. The fact that the finest filiform bougie introduced through a urethral stricture and left in position for a few days may then be replaced by a good-sized sound applies as well to the rectum.

The single case of congenital stricture was one of great interest, having first called for treatment when the patient had reached the age of thirty-eight. He had always been constipated since childhood, and for a few years before being examined this had increased. On examination a sharp, falciform obstruction, not admitting the index-finger, was found in the rectum at about two and a half inches from the anus, without ulceration, infiltration, or any sign of pathological process. I thought at first a simple nicking of this band would open the canal, but in this I was mistaken. The constriction was not due to any redundant tissue which could be divided and leave the rectal wall as it should be, but was as if a string were tightly tied around the outside of this gut, constricting all its coats. In other words, to enlarge the canal it was necessary to do an internal proctotomy, cutting completely through all the coats of the bowels into the peri-rectal cellular tissue. As internal proctotomy without either division of the sphincters or drainage by a tube brought out by the coccyx is an operation which I consider so dangerous as to be almost unjustifiable, and as this patient did not care to undergo an operation like the latter, the stricture was simply nicked in three places and then treated by bougies. The result I cannot record, as he soon disappeared from sight, but the constriction seemed too firm to yield much to bougies. This causing increasing trouble as the patient reaches middle life is one of the diagnostic points of congenital stricture of the rectum, seemingly explained by the gradually increasing inelasticity of the tissues as the patient advances in years.

The one case of spasmodic stricture was very well marked, and at about the level of the internal sphincter, or perhaps slightly higher. It occurred in a physician having piles and slight ulceration, much worn by suffering from his rectal trouble. The first thing noticeable in the examination was the exquisite sensitiveness of the parts—a touch on the skin in the region of the anus causing him to cry out. For a long time the pain after defecation had been almost unbearable, and was increased by sitting down, and relieved by standing. The index-finger showed an impassable stricture or spasm at the point mentioned, and attempts to get above it caused intense suffering. The condition was verified by my partner, Dr. Gibbs, two days later, before ether was administered, and was seen to disappear as the ether was carried to the point of complete anæsthesia, though very slowly. The piles were removed, the ulcer incised, and the rectum thoroughly dilated. The spasmodic contraction has never returned.

Of the two cases of well-marked tubercular ulceration and stricture I lost one from diffuse periproctitis following an application of the actual cautery to the disease. A former application had produced an evident good effect upon the ulcer, and had led me to hope for an ultimate cure, but the second was disastrous. In the other case I did an inguinal colotomy with excellent effect, as far as relieving the symptoms which were rapidly carrying the patient to his grave. I have not examined the case for a year, and cannot say whether there has been any reparative action. But the patient is in much better general condition than before the operation, and very comfortable.

In the case of pelvic exudation the rectum was occluded in two places, one at three and a half inches from the anus, the other at the junction with the sigmoid flex-

ure. The latter was never discovered till the autopsy. This patient declined a colotomy, and had one attack of complete intestinal obstruction, which, however, she recovered from under the use of large doses of morphine and frequent tappings of the distended coils of intestine with a fine aspirator needle. The relief given by each of these means was very marked, but the morphine acted the more positively, the patient having several large, free, voluntary evacuations after being profoundly under the influence of the drug for forty-eight hours, with the respirations much diminished in frequency. As the constriction could have been in no way influenced by the drug, it seemed that its good effect could only be accounted for by stopping the violent and fruitless peristalsis which was visible through the distended abdominal wall. The patient died a few weeks later of heart and kidney complications.

Nine of these cases are put down as due to simple ulceration—that is, as neither tubercular, venereal, or dysenteric—and I have no doubt of the correctness of the diagnosis in any of these cases. Two were due to neglected hæmorrhoidal ulceration, and two, I think, could without much doubt be attributed to prolonged and difficult labors. The others seemed the result of old ulceration, the exact cause of which could not be determined.

As to the dysenteric stricture, I may also say that the history was very complete; and though much doubt has been thrown upon the existence of dysenteric stricture of the rectum, I have no doubt as to this case, nor do I believe the condition to be a very rare one.

Colotomy.—The forty-five cancers and the thirty-nine non-malignant strictures show three excisions, six colotomies, and seventeen linear proctotomies; but, as has already been intimated, another series of cases would show an increase in the number of colotomies, and probably also in the extirpations.

The colotomies have all been left inguinal, and I will say now that I have never yet accomplished anything but good by this operation, and never regretted its recommendation and performance, though I have had occasion to regret the opposite course. All of these cases are still alive, or were a few weeks ago, save one—all of the operations being within the last fourteen months.

The one case which died was operated upon on the patient's eightieth birthday. He was very feeble—nearly worn out with the disease—and the operation was merely a desperate attempt to prolong life and diminish suffering, undertaken with very grave doubts as to whether he would survive its performance. It was very rapidly performed, with the least possible shock, and the bowel was not opened till the expiration of forty-eight hours. Twelve hours after the opening he had two large fecal evacuations from the artificial channel, and then sank quietly and died, sixty-two hours after the operation. In this case I am not willing to admit that the operation shortened life, feeling that all that can be said of it is simply that it failed to accomplish what was rather hoped than expected of it.

I do not care in this place to enter into any discussion of the relative merits of the inguinal and lumbar operations, or to describe in detail what I may consider the best method of performing the one I always prefer—the left inguinal. It is enough to say that I can scarcely conceive any combination of symptoms of rectal disease that would lead me to prefer the lumbar to the inguinal incision, and that in my inguinal operations I have never been troubled either by disagreeable prolapsus or by the absence of a sufficient spur to prevent the passage of fæces past the artificial opening. In my operations I always secure a sharply defined spur by introducing a harelip pin under the bowel, and leaving it till adhesions have formed.

Proctotomy.—Of the seventeen operations of posterior linear proctotomy thirteen were in non-malignant strictures and four in cancers. Of the latter two were fatal, one a few hours after the operation, and the other within a few days, and a third was nearly so from secondary hemorrhage. In all of these four cases the disease was extensive, the operation long and difficult, and the shock correspondingly great—greater, I think, than would have been caused by colotomy. The procedure is, I think, much better adapted to non-malignant than malignant disease.

The operation in the thirteen simple strictures involved complete division of all the tissue below the stricture in some, posterior drainage by a tube brought out by the coccyx (after the suggestion of Weir) in others, and in only a single case was the incision confined to the stricture tissue, this one being followed by a severe periproctitis, from which the patient, however, recovered. The internal incision, involving as it does a free opening up of the cellular tissues of the pelvis, without any provision for drainage, can hardly be looked upon as justifiable according to our modern ideas of surgery.

As to the results of this operation, I should never regard it as a radical cure in itself for stricture, but combined with subsequent dilatation and local treatment of the accompanying ulceration it has in some cases proved remarkably satisfactory. I have cases under observation now in whom, though the stricture has never entirely disappeared, almost all of the symptoms caused by it before operation, such as pain, discharge, straining, and incontinence, have done so. I regard the complete division as only the first step in a long course of treatment; but one by which much time may be saved, and a much better result obtained in the end than by any other course. It is therefore my favorite procedure in cases of this class, not yet being convinced that with so good a means at hand the complete excision of non-malignant strictures is quite to be encouraged.

Acute Intestinal Obstruction.—Of these five cases, three have been perfectly simple in diagnosis and two doubtful. The first was a case of syphilitic stricture of the rectum, ending fatally from rupture of the bowel by active purgation. The second was due to stricture of the rectum and sigmoid flexure from occlusion by plastic exudation, and recovered under treatment by puncture and opium. The fifth was due to pressure of a cancerous growth springing from the promontory of the sacrum, and was complicated by acute peritonitis. The operation of inguinal colotomy was done, a large amount of serous fluid was evacuated at the time, and the patient made a good recovery. The fourth I was called to see in consultation in miserable quarters, at about midnight, and as there had been complete obstruction for nearly a fortnight, as the case was evidently one of tumor filling the whole pelvis and part of the abdomen, with pulse of 130, and no possibility of operating till proper antiseptic facilities could be provided, she was put upon medical treatment. The bowels moved freely under the influence of morphine after the consultation, and the patient survived about ten days. Diagnosis, cancer of the pelvis. The third and last was a medical rather than a surgical case, in which, after obstinate constipation for two weeks which yielded neither to the long tube or croton-oil, the patient made a rapid recovery under rest, morphine, and a pill of podophyllin. Diagnosis, fecal obstruction.

I must confess that these cases are about the most interesting I meet. I believe thoroughly in exploratory incisions for the sake of diagnosis, and am as ready to practise them as anybody; and yet it is only a few weeks since a case has occurred to me which is not included in this table, but which I will describe as illustrating the position in which one may be placed.

After a five-hour railroad ride I reached the patient at 11 P.M. He was eighty-six years of age, and forty-eight hours before my arrival had been taken down with the unmistakable symptoms of acute intestinal obstruction. Perfect health before the attack, except obstinate constipation for years and the history of one or two previous attacks similar to the present; sudden onset of symptoms after a meal; pain, swelling of abdomen, constipation,

fever, high pulse, vomiting—at first the contents of the stomach, later something described by one of the attending physicians as fecal and by the other as bilious. Twelve hours before my arrival he had become decidedly better. I examined the patient carefully. The abdomen was tense, hard, but painless. The patient was slightly delirious, and hiccoughing. The pulse and temperature had both come down to nearly normal; it was eleven at night, and there was no light to operate with. It was decided to use the long tube and wait till morning. Two quarts of water were introduced and evacuated, bringing away a small quantity of fæces, and two pills of aloes, belladonna, and strychnine were given. At 4 A.M. the patient was again examined. Hiccough had disappeared, pulse and temperature both lower. At 8 A.M. there was a considerable collection of fæces in the upper part of the rectum; the pulse and temperature were normal, the abdomen was less distended, and I decided not to operate. On the following day he had a natural fecal movement, and from that time on till his death, ten days from the onset of the attack, there were no symptoms. The bowels did not move again, but there were no signs of obstruction or of inflammation. No autopsy.

Invagination of the Rectum.—The two cases of intussusception included in the list were both invaginations of the upper part of the rectum into the lower, coming on at each attempt at defecation, and passing off spontaneously after a certain length of time. The condition is a peculiar one, and Cripps's description of a single case and the operation performed is the only one I have ever seen in print.

The symptoms are peculiar and almost diagnostic. The patient, if intelligent enough to express what he wishes to, will say that immediately on attempting to defecate the rectum seems to close upon itself, and that all straining only makes it worse. Also, that to get relief he either has to go many times and wait a long while, or else to assume some unnatural attitude. One of my patients could only relieve himself in the knee chest position. The condition may also be made out by a digital examination.

The operation consists in applying the cautery in three or four longitudinal stripes to the upper part of the rectum, to produce contraction. Paquelin's instrument should not be used, but one of the old-fashioned olive-pointed irons, heated to a dull red. If the iron be too hot, or too freely used, a fatal peritonitis may easily result.

The operations for proctocele, cystocele, and lacerated cervix need not be dwelt upon. They present nothing of interest, and were all undertaken in connection with operations for other diseases of the rectum.

Ulceration.—The forty cases of non-malignant ulceration without stricture would make an interesting study in themselves, as they include almost every variety of the disease, from the circumscribed red, eroded, and bleeding spot due to the pressure of impacted fæces, which heals when the bowel is unloaded; to the extensive cases of tubercular disease requiring colotomy. Distinct syphilitic ulceration of the rectal pouch without involvement of the anus, I have seen more than once, and have cured by combined local and general treatment. There have been four cases of lupus, or *esthiomène*, a word which, with R. W. Taylor, I believe should be dropped from our literature as expressing nothing definite. I have never had an opportunity, however, to treat one of these cases by destructive cauterization and *raclage*, as I should be glad to do; for there seems no reason why, when taken at an early stage, a healthy reparative action cannot be excited in this way. These patients all came from the lower walks of life, and I have never heard of the disease in any other.

The most frequent form of ulceration in my experience has been the hæmorrhoidal, resulting sometimes from mere neglect, and at others from some kind of ill-advised attempt at cure. This form I have also seen result in well-marked stricture. Cases of slight ulceration from pressure of a misplaced uterus are also not uncommon; and more severe forms of the disease have been due to the injection of carbolic acid. Dysenteric ulceration is not so very rare in New York, and in some parts of New Jersey it is quite frequent.

The treatment of these cases requires more patience, tact, and therapeutic skill than any other class of affections of the rectum. Some of them can be seen at the first glance to be incurable by any means short of colotomy. In others, like the tubercular and lupoid, destructive cauterization and curetting with the sharp spoon may induce cicatrization; but in the tubercular variety I think this only applies to those in which the process is comparatively limited. In the cases of dysentery, voluminous injections of nitrate of silver, one or two grains to the ounce, have sometimes acted surprisingly well. The less serious forms, ulcers of limited area within the reach of local applications, may be successfully treated by nitrate of silver, acids, division with the knife, and astringents.

Neuroses. — The thirty-two cases grouped arbitrarily under this head represent many phases of disease. The term, nervous rectum, though far from being a diagnosis, represents a very distinct affection to the practitioner. It can only be applied to the patient who, without any discoverable lesion, still complains of being conscious, and often very disagreeably conscious, of the existence of his rectum. Almost any lesion of this part may cause unusual and annoying reflexes, such as pain in the loins and legs, disturbances of the genito-urinary organs, irritation of other parts of the alimentary canal. as shown by indigestion and loss of appetite; and, indeed, may manifest itself by an irritation at almost any point in either the cerebro-spinal or sympathetic nervous system. Some of these cases have been very curious. I have had two patients in whom the act of defecation and the protrusion of a mass of hæmorrhoids has caused at each act a decided faintness, and this neither from pain or loss of blood. One of these was an athlete with comparatively little trouble. A physician told me not long ago that he was so nauseated after everything he ate that he had ceased to try to take any solid food. He had a bad pruritus with small hæmorrhoids, and the morning after the operation he ate a hearty breakfast for the first time in months. Pain in the foot is a very common symptom of rectal disease, but trouble in locomotion, strongly resembling incipient locomotor-ataxia, I have never seen but once. This was in a case seen with Dr. Spitzka, and curing the rectal trouble put an end to all the symptoms.

It is manifestly impossible to promise a cure of these reflexes by an operation, but the physician who did so would be more often right than wrong, and it is, at all events, not a bad plan to be on the watch for rectal trouble in patients presenting such anomalous troubles. I operated some months ago on a stricture of the rectum, and secured a very happy relief from abdominal pain, in a case in which two of my gynecological friends had recommended removal of the ovaries. The patient tells me neither of them examined her rectum or discovered that she had any trouble there.

These cases, however, are all entered under their proper headings, and the thirty-two cases here referred to are cases in which no disease could be discovered. Some of them were cases of simple neuralgia; in many the patients could hardly describe in words the nature of their discomfort. For example: an intelligent young physician consults me because, when sitting for any length of time, he feels a sense of heat, almost amounting to burning, in the rectum. This is not fancy, for it keeps him walking around in his office and prevents his enjoying the theatre or opera. Another patient complains that she has pains on sitting, so that she always has to sit on the edge of her chair; and for some months past she has had from three to six watery passages on waking in the morning, as though

she had taken a large dose of salts. There is no sign of ulceration and no coccygodynia, in fact no disease of any sort discoverable. Another complains of acute pain after stool, extending into the groin, affecting the neck of the bladder, and causing vomiting and great prostration. Such attacks come once in six months, last a day or two, and the patient is perfectly well in the intervals. Examination absolutely negative! These are simply examples of a large class. But the condition may be more serious than this, and a patient may become so firmly convinced that he has serious disease with his rectum as to become hypochondriacal upon this as upon any other point. Of course, the treatment of such cases must be on general principles. I have discovered, however, that to insist upon etherization and dilatation of the sphincter for a thorough examination, if it does not effect a cure, generally suffices to effect a change in the medical attendant.

ON THE EFFECTS OF CERTAIN DRUGS ON THE VELOCITY OF THE BLOOD-CURRENT.[1]

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THE velocity of the blood-current in an artery is determined by the ratio of the quantity of blood that flows through it in a given time to the sectional area. In other words, the figures representing the volume of blood that passes through an artery in a given time, say in one second, divided by the figures designating the sectional area of that artery, will give as the quotient the mean velocities of the current in the various areas of the arterial system. As these sectional areas differ in various vessels, and in various parts of the same vessel, so must the velocity differ. The velocities are in fact inversely proportional to the sectional area.

As the total sectional area of the arterial system continually increases from the heart toward the periphery, the velocity of the current naturally decreases from the heart toward the periphery.

The velocity and the tension of the blood-current at beginning of the arterial system is dependent upon two factors: 1, The energy of the activity of the heart; 2, and the sum total of the resistances of the vascular paths. Both of these factors—the energy of the heart activity and the sum of peripheral resistances—are variable.

The heart's action continually varies in the normal animal in the rate of its rhythm, the force of contraction, the tonicity, and probably conduction, and the sum of the peripheral resistances varies mainly through vaso-motor influences exerted upon the small arteries. To gain a better conception of the influences that govern the rate of the current it is most expedient to consider the possible variations to which these two main factors of heart activity and peripheral resistance are subject.

I. The energy of the heart contractions remains the same and the resistance (*a*) increases, then blood-pressure increases and velocity decreases. (*b*) Resistance decreases, then blood pressure decreases and the velocity increases.

II. The energy of the heart activity increases and (*a*) the resistances are the same, the blood-pressure and velocity increase. (*b*) The resistances increase, then blood-pressure increases and velocity remains the same. (*c*) The resistances diminish, then blood-pressure remains the same and velocity increases.

III. The energy of the heart activity decreases and at the same time (*a*) the resistances are the same, then blood pressure and velocity are reduced. (*b*) The resistances are correspondingly greater, then blood-pressure remains the same and velocity decreases. (*c*) The resistances are correspondingly smaller, then blood-pressure sinks and velocity is the same.

[1] Experiments made in the Biological Laboratory of the Johns Hopkins University.

There is no constant relation between the sizes and volumes of the various branches that develop from the aorta. Experience has shown that variations of resistance occur in circumscribed areas of the peripheral arterial system, while heart-action and blood-pressure remain unaltered. This is possible only if the restriction of the discharge, *i.e.*, the diminution of the current volume in one branch, is counterbalanced by compensatory increase in the current volume in other branches; therefore the velocity in different arteries varies at the same time in an alternating equalizing manner; from this it follows that in investigations of the velocity of the current in one and the same vessel one finds great variations in the velocity in consecutive periods of time which bear no constant relation at all to frequency of the pulse or to blood-pressure.

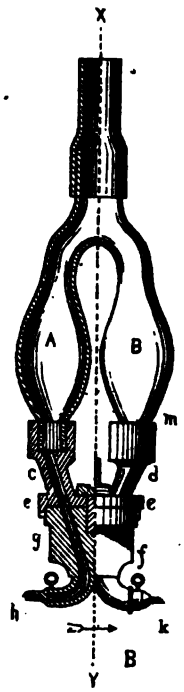
To form an approximately correct idea of the rate of the current in any artery one cannot judge from one measurement taken in one single period of time, nor even from two or three such measurements. From experience one learns that the mean of the results of at least six measurements must be calculated, taken in six consecutive periods of time. In the experiments to be detailed the results are based upon the average of six measurements taken once every two minutes. There are, of course, measurements taken oftener than once in two minutes, but they are for brevity's sake excluded, and only the measurement at the end of every second minute taken, during twelve consecutive minutes, to make up the average.

We have studied the effect of ergot, digitalis, and alcohol on the rate of the blood-current in the carotid artery. The animals used were dogs and cats. The drugs were allowed to run into the jugular vein, diluted with defibrinated blood from another animal of the same kind. For this purpose, and also to be able accurately to determine the amount which entered the circulation, a cannula in the jugular vein was connected with a eudiometer. In case of ergot we employed a solution of the officinal fluid extract, 1 c.c. to 9 c.c. of defibrinated blood, and also a solution of ergotole (S. & D.), 1 c.c. to 29 c.c. of defibrinated blood. In case of digitalis a ten per cent. solution of the tincture and a twenty-five per cent. solution of the infusion, in defibrinated blood, were made use of. A solution of digitalin was also experimented with, in form of a solution in defibrinated blood, .005 gm. digitalin to 100 c.c. blood. In case of alcohol, solutions of varying strengths of Squibb's absolute ethylic alcohol in defibrinated blood were used. Defibrinated blood injected into the jugular vein as such had no appreciable effect on the rate of the current in the carotid, as far as could be determined by the instrument which was used for that purpose, and which will presently be described. The drugs were in every case mixed with 50 c.c. of normal salt solution, and this again added to 50 c.c. of defibrinated blood.

A number of instruments have been devised to measure the velocity of the arterial current—Volkmann's hæmodromometer, Vierordt's hæmotachometer, Chauveau's hæmodrometer, and the hæmodromographs of Lortet and Marey—all have been shown to possess objections. The best instrument which has thus far been invented for this purpose is the so-called stromuhr of Ludwig (stromuhr, current-clock); even this instrument has not entirely surmounted the difficulties, still it is the most accurate we have.

The stromuhr consists of two ovoidal glass cylinders or globes, the capacity of which is accurately known and is equal in both. These two globes are continued upward in a tubular manner, and connect with each other by a U-shaped curvature. On the convex side of this curve there is a short exit tube which can be hermetically closed. The lower ends of the globes are held in two metal tubes (*m*, *m*), the other ends of which communicate with two cannulæ, *h* and *k*, that are inserted in the ends of a divided artery. The course of these tubes is

at one place interrupted by two metallic disks, which are accurately fitted upon each other. The two upper ends of the tubes coming from the ovoidal globes are fitted into the upper disk so that its perforation exactly strikes the lumen of the lower tubes in the lower disk. The part of the instrument resting upon the upper disk can be rotated in a circle of 180°. By this rotation the globes of the current-clock can be alternately brought into communication with the two cannulæ.



In the experiment the globe nearest the cardiac end of the artery is filled with pure olive-oil (this oil should be previously shaken with distilled water to free it from all oleic acid and mucin), while the globe nearest the distal end is filled with defibrinated blood. The globes each will hold 5 c.c. When a measurement is taken the blood enters from the artery into the first globe, displacing the oil, which is pushed over into the second globe, while the defibrinated blood is forced into the peripheral part of the artery.

As soon as all of the oil is forced from globe A to B, by the inrushing blood, the stromuhr is turned through 180°, by which the oil is again placed nearest to the cardiac end of the artery. In every new rotation after this the oil is displaced by blood, the blood in the second globe by oil, the main point of observation being to note the exact time it takes for the blood to displace 5 c.c. of oil. The velocity is measured by the ratio of the quantity to the sectional area.

Suppose the sectional area of a dog's carotid to be $3\frac{1}{2}$ mm., and the oil had been displaced ten times in 100 seconds, the space occupied ten times by the blood in replacing the oil being 10×5; hence 50 c.c. of blood have been delivered in 100 seconds, then $\frac{50.00 \text{ quantity}}{3.2 \text{ sect. area}} = 156$ mm. of blood per second, the velocity.

The following are tables giving the results of one of the experiments each, that were made with ethylic alcohol, digitalis, and ergot:

Experiment No. 1, with Ethylic Alcohol, Ten per cent. Solution—Diameter of Carotid Cannula, 1.61 Mm.

A. NORMALLY.

Volume of Stream in 1 Second in Cubic Centimetres.	Mean Velocity in 1 Second in Mm.
0.33	190
0.25	142
0.28	142
0.33	190
0.23	143
0.19	140

Average of six measurements under normal conditions ..... 158.0 mm.

B. UNDER ETHYLIC ALCOHOL.

1.6	338
1.3	339
2.0	410
2.3	432
2.5	460
2.0	416

Average of six measurements under ethylic alcohol ..... 399.1 mm.

Increase of rate of current under alcohol 241.1

Experiment No. 2, with Digitalis—Diameter of Carotid Canula, 1.61 Mm.

A. UNDER NORMAL CONDITIONS.

Volume of Stream in 1 Second in Cubic Centimetres.	Mean Velocity in 1 Second in Mm.
0.33	188
0.22	125
0.28	161
0.33	188
0.25	141
0.33	188

Average of six measurements under normal conditions ..... 165.16 mm.

B. UNDER DIGITALIS.

0.20	120
0.14	84
0.10	72
0.20	120
0.20	116
0.12	80

Average of six measurements under digitalis ..... 98.60 mm.

Difference between rate of current normally and under digitalis 66.56

Experiment No. 3, with Ergot—Diameter of Carotid Cannula, 1.61 Mm.

A. UNDER NORMAL CONDITIONS.

Volume of Stream in 1 Second in Cubic Centimetres.	Mean Velocity in 1 Second in Mm.
2.0	340
1.7	312
1.69	314
0.72	392
0.72	390
1.7	318

Average of six measurements under normal conditions ..... 344.3 mm.

B. UNDER ERGOT.

1.0	198
1.7	206
1.3	210
0.6	204
0.6	114
1.6	200

Average of six measurements under ergot ..... 188.6 mm.

Difference between rate of flow under normal conditions and under ergot. 155.7

In the experiment we have recorded concerning ergot it is clear that the rate of the flow was diminished by 155.7 mm. Under digitalis the stromuhr showed a reduction of the rate of the current of 66.56 mm. Under ethylic alcohol, however, the rate of the current was increased by 241 mm. per second. These main conclusions are supported by the remaining experiments (four with each drug) and the figures are based upon the averages of six measurements.

A number of experiments have been rejected because in one way or other they were failures. It will probably be a safe method to use the stromuhr in the current of the femoral instead of the carotid artery, because of the easier manipulation of the instrument in this region; in the neck, the trachea, jugular vein, and vagus add to complicate the operation.

The result of every experiment showing, with very slight variations, that ergot and digitalis reduce the rate of the current while alcohol increases it, the question

raises, "Are there any facts known concerning the physiological action of these drugs which could explain these observations?"

It is established beyond a doubt that ergot diminishes the frequency and force of the systolic contractions and that it constricts the arterioles. For the literature bearing on this we will refer to the writer's recent contributions to the subject (J. C. Hemmeter, "An Experimental and Clinical Study of Ergot," *Medical News*, January 31, February 7, March 7, and March 14, 1891). As ergot, therefore, diminishes the energy of the heart activity, and at the same time increases peripheral resistance, its effects must be classified under heading No. III., section *b*, on page 292 these influences being sufficient to explain the power of ergot to reduce the velocity of the blood-current.

Concerning digitalis it may be stated that it has been determined by many observers that this drug (1) decreases the work of the normal heart (see Jörg, *Archives de Médecine*, 1er. sér., i. xxvii., p. 107; also Saunders, "On Foxglove;" Hutchinson, quoted by Homolle and Quevenne, *Arch. de Physiol. de Thérap.*, etc., No. 1, 1854; and H. H. Donaldson and Mactier Warfield, "Studies for the Biol. Laboratory," Johns Hopkins Univ., vol. ii., p. 335). (2) That it produces contraction of the arterioles (see Fothergill-Schmidt's *Jahrb.*, vol., cliv., 1872; also *British Medical Journal*, July and August, 1871; Gourvat, *Gazette Médicale de Paris*, 1871; Brieseman-Schmidt's *Jahrbücher*, vol. cliii., p. 29; Boldt, Inaug. Dissert., Schmidt's *Jahrbücher*, March, 1872; Ackermann, *Deutsch. Archiv f. klin. Med.*, vol. xi., p. 125; Donaldson and Stevens, *Medical News*, Phila., xli., p. 697).

For fuller references to literature on the effects of digitalis in reducing the work of the heart, and in constricting the arterioles and capillaries, we would direct attention to the work of Donaldson and Warfield, and Donaldson and Stevens, above quoted, also to the works on therapeutics of H. C. Wood, Lauder Brunton, Ringer, Köhler, and Binz.

The physiological actions of ergot and digitalis in reducing the rate of the blood-current are very closely allied, and might be arranged in the same category before stated, namely, No. III., section *b*.

The cause of the increase of the rate of the blood-current observed under alcohol will have to be exclusively sought in its property to cause dilatation of the arterioles and capillaries, thus diminishing peripheral resistance to the blood-stream, for Professor H. N. Martin has shown that there is no increase in the rate of the heart-beat, and therefore, probably, no increase in the work done by the heart in the normal animal (H. Newell Martin and L. T. Stevens, "Studies for the Biological Laboratory," vol. ii., p. 477). Professor Martin has also shown that the work of the isolated mammalian heart is actually diminished under alcohol, the character of the heart-beat being so altered through swelling of the myocardium that the ventricular cavity is not obliterated at the end of the systole. These observations have been confirmed by the author. It must be remembered in the clinical application of alcohol that the action of this substance is different in the organism that is pathologically altered from what it is in the normal one. Thus it is most probable that in fevers and acute inflammatory diseases the pulse-rate is reduced by alcohol. It was formerly held by some investigators that this reduction of the pulse-rate in fevers, etc., under the use of wine, whiskey, etc., was possibly the effect of some of the other constituents of these liquids, not to the alcohol contained in them. The author, however, has convinced himself, in a case of typhoid fever, and also in one of pulmonary tuberculosis, that 20 c.c. of absolute alcohol in 80 c.c. of water, will, within twenty minutes, reduce the rate of the pulse, in case of the enteric fever, from 112 to 96, this reduction was noticed three times in the same case of typhoid fever. Under the same dose a fall from 128 to 98 was noted in this patient on another occasion.

However, the opinions concerning the action of alcohol in the work done by the heart may vary concerning pathological conditions. The most reliable observations, those already quoted, seem to point conclusively to the fact that the work of the normal heart is not increased at any rate; if, therefore, the velocity of the blood-current is increased under alcohol, this can be due only to its diminishing peripheral resistance to the blood-stream by dilating arterioles and capillaries; that alcohol has this effect was shown by Parkes, Bouvier, Marvaud, Zimmermann, Richardson, and the author. For fuller references on the literature of this subject we would refer to the work of Professor H. N. Martin, already quoted, and that of the author (J. C. Hemmeter, "Recent Experiments on the Physiological Action of Ethylic Alcohol," "Transactions of the Medical and Chirurgical Faculty of Medicine," 1889, p. 229; also, J. C. Hemmeter, "On the Comparative Physiological Effects of Certain Members of the Ethylic Alcohol Series on the Isolated Mammalian Heart," "Studies from the Biological Laboratory, Johns Hopkins University," vol. iv., No. 5).

The therapeutic significance, if any, of the results obtained we are not prepared to discuss, but we may point out that experiment confirms clinical experience, in case of ergot and digitalis, as applied to hemorrhage, for if the quantity of blood that flows through an artery in a given time is reduced by these agents, their application to processes of transudation and hemorrhage becomes rational. And again the dilatation of the blood-vessels and the increased velocity of the blood-current under alcohol may explain in part many of its clinical applications, for every physician knows how effectively the freer and fuller current of blood through the nobler organs acts as a resuscitating stimulus in many diseases.

THE NATURAL COURSE OF CATARACT.[1]

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Two facts forcibly strike the student of ophthalmological literature. First, the enormous number of kinds of medical treatment that have been used for the improvement and cure of cataract; and, second, the absolute and unqualified success of each method, if we are to believe the statements of the men originating or reviving it. A critical examination of the records reveals a curious and significant state of affairs. Homœopathy stands far and away ahead of any other system in its claims as to the number and efficacy of cataract cures.

In the *Journal of Ophthalmology, Otology, and Laryngology* of 1889 the treatment advised by one man alone, who claims to have cured three cases, consists of appropriate homœopathic treatment internally (let us thank the author for sparing us the details), and locally hot fomentations, galvanism, chloral, cantharis, or mustard, with occasional dry cupping. Since 1861, when von Jaeger was accused of having believed in some cure which he preferred to keep secret, no ophthalmologist of national or international fame has claimed to cure uncomplicated senile cataract by treatment other than removal of the lens except Sperino.

Life is too short for the enumeration of all the internal remedies that have been used by regular physicians to cure cataract. Some of the principal were: Mercurials—Boerhaave, 1750; Janin, 1788. Setons, alteratives, and purges—Curtis and Warnatz, 1835; Larray, 1836. Strychnine—Schneider. Carlsbad water is said to have cured one case in one dose, Arlt, 1833. Alteratives and purges followed by tonics—Moyne (Naples), 1882 (*Bollet d'oculista*). Combined local and general treatment have made, perhaps, more of a sensation for the time being. Electricity was first recommended by Hinley, in 1843, but he used internal remedies and waited for nature as

[1] Read before the Ophthalmological Section of the New York Academy of Medicine, May 18, 1891.

well. In two cases Arlt claimed, in 1833, to have effected a cure by the use of a salve locally, with Carlsbad water internally. Phosphorus, locally and internally, made a tremendous sensation after the claims of Tavignot, in 1868.

The local treatment of cataract has always been the most popular. As might have been expected, massage was the first local treatment to be used. Costomiris (*Arch. d'Ophthal.*, No. X.) says that massage was used for cataract by the ancient Greeks. He distinguishes nine kinds of massage, according to the amount of pressure used and the duration. Hippocrates distinguished four kinds. As a rule, since that massage has been combined with some salve, as in Arlt's cases in 1833, or solution, and the supposed virtue of the treatment ascribed in part or wholly to the medicines.

Electricity, as above mentioned, was first used in 1843 for curing cataract, and has been used at irregular intervals for this purpose since. Colburn (*Journal of the American Medical Association*, 1887) makes a very fair showing in his cases of equatorial cataract treated by electricity, if it should be acknowledged that this form of cataract is necessarily progressive.

Of all local treatments that of Sperino deserves the most respect. He revived the old method of Hecquet, 1729, and De Villards, 1740, repeated tapping of the anterior chamber, and in 1860 reported success in forty cases. This treatment was founded on a well-recognized change in the composition of the aqueous in certain cataracts, and was supported by many ophthalmologists of the time. But Borelli, Torresini, and Rivaud-Laudrau successfully attacked the method by showing such bad results that Becker says it entirely disappeared. However, Bänziger, Zurich, 1889, reported a case of cataract in a child in which he unsuccessfully performed discission, the capsule closing rapidly after each operation. One month later the cataract in one eye was found to be absorbed. Bänziger ascribes the absorption to the repeated tapping of the anterior chamber.

At the time of the meeting of the first International Ophthalmological Congress, in 1857, cataract cures were rife, and cases cured by ammonia to the temples, and another by iodide of potassium were reported. A committee was appointed to consider the question and reported through its chairman, M. Testelin, as follows: "There does not exist, in the annals of science, one authentic proof that a cataract has retrograded or been arrested in its course under the influence of any medical treatment whatever."

Authentic cases of absorption of cataract spontaneously have been reported from time immemorial. In answer to De Wecker's claim that such a thing had never happened, Meyer collected a number of cases, which are published in v. Graefe's *Archiv*, No. 33. For full details of the earlier cases I would refer you to his article. Cases of the spontaneous absorption of traumatic cataract are of common occurrence and need not be enumerated. Doubtful cases, such as Albers's in 1804, Hinterberger's and Estlin's in 1829, need not be detailed. The only pre-ophthalmoscopic spontaneous cure that appears to be reliable is that reported by Warnatz, in 1835, of bilateral cataract which had been brought on by a hunger-cure for rheumatism. E. von Jaeger, in 1861, reported many cases of improvement and two of cure of "cloudy interlamellar substance," one in a man aged twenty-five, under observation four years, the other a woman, aged forty-two, under observation twelve years.

Holscher (*Walther and Amman's Journal*, vol. xxxii.) reports two cases of congenital cataract in children completely absorbed in fifteen years. The father of these children had cataract.

Gorecki, in 1875 (*Recueil d'Ophth.*), reports the correction of a myopia by the spontaneous absorption of a cataractous lens where posterior synechia was present.

Becker, in *Graefe and Sæmische*, reports the absorption of an equatorial cataract in a woman sixty years of age.

Tamanscheff, 1878 (*Gazette des Hôpitaux*), claims absorption in a case of cataract.

Schiess, in 1882 (*Correspondenzblatt f. Schweitzer Aertze*), reports the absorption, in four months, of a cataractous lens in a twenty-five year old patient.

Armaignac (*Journal de Mèdecine de Bordeaux*, No. 25) reports a case of rapid formation of cataract in a case of irido-choroiditis and rapid clearing of the lens substance afterward.

Szili, in 1884 (*Centralblatt f. prakt. Augenheilkunde*), gives full details of a case of absorption from spontaneous rupture of the capsule in a sixty-five year old patient.

Lange, in 1884 (*Arch. f. Ophth.*), reports the absorption of the upper portion of a lens with Morgagnian cataract, and gave further details the next year—V. $\frac{4}{LX}$ with sph. + D. 9.

Nordman, in 1885 (*Arch. f. Augenheilk.*), reports a similar case—V. $\frac{1}{6}$ with + D. 11; when combined with the stenopaic slit $\frac{6}{IX}$ —.

De Wecker now got in out of the cold by reporting two such cases (*Traité Complet d'Ophth.*).

Nettleship, in 1885, reported three cases of spontaneous cure of diabetic cataract—two of Regen's, one of Tannahill's (*British Medical Journal*).

Bretthauer, in 1886, reported three cases of spontaneous absorption within the capsule. One had before been reported by him before with V. of $\frac{20}{LX}$ — with sph. + $\frac{1}{6}$.

Berlin and Leber have each reported a case of cure following iritis, and a similar case was reported to the Société Médicale at Berne by Dor.

Kipp, in 1887, reported a case of spontaneous cure of cataract—V. $\frac{18}{XXX}$ (*American Journal of Ophthalmology*).

Nicati, in 1888, reported a case of Grange's, in which the upper part of the lens in a case of Morgagnian cataract was absorbed—V. $\frac{1}{6}$. The fluid in the upper part of the capsule was later absorbed, leaving the nucleus and capsule. Nicati also reported a case of his own of spontaneous absorption in a patient seventy-eight years of age. Vision perfect; a myopia of D. 9 had disappeared (*La France Médicale*).

Ocana, of Madrid, reported another case of absorption the same year.

Desogus, in 1889, reported a similar case (*Riforma Medica*).

Baker, in 1889, reported improvement in a diabetic case from a V. of fingers at 6 inches to $\frac{20}{LXX}$ O. D., and $\frac{20}{LX}$ O. S. In a nephritic case from $\frac{20}{CC}$ to $\frac{20}{L}$, and another of absorption of an equatorial cataract five years after Agnew had diagnosed it and corrected the regular astigmatism (*Cleveland Medical Gazette*).

Risley, in 1889, described four cases of cataract from choroiditis with great improvement of vision, which he ascribes to the cure of the choroiditis, merely claiming that the lens process became stationary (*University Medical Magazine*).

All the foregoing cases do not throw much light upon the natural course of cataract in general. The only attempt that I know to have been made to obtain statistics of the natural proportion of improving stationary and progressing cataracts so far was made by Brailey, who reported a number of cases to the Ophthalmological Society of the United Kingdom, December 11, 1890. According to a review of this paper in one of the French journals forty-five per cent. of Brailey's cases remained stationary, thirty-three per cent. retrograded. Four cases improved and four matured. The stationary cases were all cortical.

In order to illustrate some well-known facts concerning cataract, which are unfortunately often overlooked because they have never been popularized, I have collected and carefully tabulated 87 cases of cataract occurring in 57 patients. For the records of four cataracts I am indebted to Dr. H. D. Noyes. Five were private cases of my own, the histories not having been written recently. The remaining 78 (in 52 patients) are from the records of the clinic of Dr. C. S. Bull, at the New York Eye and Ear Infirmary, and include all cases tested two or more times, with an interval of over a week between the tests, from 1876 to 1891.

Dr. Noyes's cases as well as my own have a larger proportion showing improvement in V. than Dr. Bull's, not having been so long under observation. All cases with V. less than $\frac{5}{CC}$ have been rejected, as being nearly ma ture and not probably as reliable as the others, although the record showed improvement of V. in a goodly proportion of even these. All cases in which diabetes or Bright's disease was noted are not reported, as well as cases of secondary cataract. These cases were examined and recorded with no object in view, such as showing improvement of V. In fact such improvement was usually questioned, and failure of V. was looked for and in the cases not incipient desired. As a proof of this, several cases where Förster's operation for ripening the cataract was done are among the number. While it is freely acknowedged that some of the tests were not absolutely accurate, it is claimed that they are fully as reliable as any ordinary dispensary tests, to say the least. That in general the variable V. is due to the nature of the pathological process is certain, for no other class of chronic cases in these records show any such variability except those with vitreous opacities. In 41 of these cataracts occurring in 29 patients, there were two tests recorded, the shortest time between them being ten days, the longest six years, the average five and a half months. Twenty-eight patients, having 46 cataracts, were tested more than two times, the shortest interval between the first and last test being one and a half month, longest ten years, average sixteen months. Of the 87 cataracts 17 showed no change in the vision, but only one of these was tested more than twice. Three cases showed improvement of V., then failure; 8 showed failure, then improvement; 31 showed improvement with no failure of V., making in all 42 cases showing improvement of V. during the time of observation, as against 28 cases showing progressive failure. The number of cases showing progressive improvement and the number showing progressive failure of those which had had more than two tests was exactly equal; 17 of each. In 38 cases the refraction was determined—22 were hyperopic, 15 myopic, while one was anisometropic. In this latter case, however, the hyperopic eye (+ D. 1) became gradually myopic, the highest myopia noted ($-\frac{1}{24}$) being attained in two years four months, V. without correction dropping from $\frac{20}{XL}$ to $\frac{20}{C}$, corrected from $\frac{20}{XX}$ to $\frac{20}{XL}$. Eight patients showed increase of myopia or decrease of hyperopia, as against 4 showing decrease of myopia, or increase of hyperopia. In 35 cases the nature of the cataract was noted, the remainder being, it is fair to presume, all, or nearly all, ordinary senile cataract. The most interest attaches to the cataracts diagnosed as incipient, for these were mostly of the equatorial variety, the kind that it has been claimed have shown such good results in the treatment by electricity. Of 17 of these, 7 showed improvement, 3 myopic, 3 hyperopic, 1 in which the refraction was not noted. Four of these had mature cataract in the other eye; 7 showed stationary V., 6 hyperopic, 1 myopic, 1 not noted. One of these had mature cataract in the other eye. In 3 the V. became worse, refraction not noted, mature cataract in the other eye in two.

Of 8 cases noted as nuclear and peripheral, the V. of 3 improved, 2 myopic. The 5 that showed failure were all hyperopic. Three lenses had cloudy anterior lamellæ; 2 (myopic), showed improvement; 1 (hyperopic) with mature cataract in the other eye grew worse. Two nuclear cataracts became worse. One other showing improvement is noted as striated. Two lamellar cataracts show one stationary, one improved. I shall refer to this later. One cataract was diagnosed as nuclear and sectional; the eye was myopic, and the V. showed improvement. The last of these, a traumatic case, deserves a more detailed description.

The patient, a middle-aged laborer, received an injury to each eye, producing in each traumatic cataract. V. O. D. $\frac{20}{CC}$; V. O. S. $\frac{20}{LXX\ -}$. The right cataract gradually matured, and about three years later was extracted. The V. of the left eye improved to $\frac{20}{L\ -}$ in eighteen months, but six months after this the eye was again injured, the cornea being lacerated and the anterior chamber filled with blood—V. = light. As the blood was absorbed, the cataract, an opaque patch, was seen to occupy the temporal portion of the lens. In eleven months the V. reached $\frac{5}{C}$ + and in two and a half years $\frac{20}{C}$ —. Then failing gradually up to the present time it reached the V., fingers at six inches, ten years and more after the first injury. The lens is almost entirely opaque and neither nucleus nor soft lens matter can be made out. A curious fact to be noted is, that in the cases in which the cataract in one eye had matured, the mature cataract was in the right eye in 9, in the left only in 5.

The cataract in which the V. at any time was over $\frac{20}{CC}$, and showed steady improvement, were (Dr. Noyes's cases):

$\frac{20}{CC}$ to $\frac{20}{XL}$ in seven months.

$\frac{20}{XL}$ to $\frac{20}{XXX}$ in seven months.

$\frac{20}{XL}$ to $\frac{20}{XXX}$ in three months.

Incipient:

X.* $\frac{20}{XL}$ to $\frac{20}{XX}$ in four months.

XVI. $\frac{20}{XL\ -}$ to $\frac{20}{XXX}$ in eleven months.

XVII. $\frac{20}{C}$ to $\frac{20}{LXX}$ in three months.

XXIV. $\frac{20}{L}$ to $\frac{20}{XX}$ in eleven months.

XXIX. $\frac{20}{C\ -}$ to $\frac{20}{LXX\ -}$ in six weeks.

XXXIV. $\frac{20}{L\ +}$ to $\frac{20}{XXX\ +}$ in nine months.

XLVIII. $\frac{20}{L\ -}$ to $\frac{20}{XXX\ -}$ in four and a half months.

XXXV. $\frac{20}{CC}$ to $\frac{20}{L\ +}$ in nine weeks.

XLV. $\frac{20}{LXX}$ to $\frac{20}{XL\ +}$ in five weeks.

LXIII. $\frac{20}{LXX}$ to $\frac{20}{XL\ -}$ in three and a half months.

XXXIX. This improvement is evidently only apparent, and I give it in full: V. O. D. $= \frac{20}{CC}$; with sph. $+ \frac{1}{30} = \frac{20}{70\ -}$. Ten days later, V. O. D. $= \frac{20}{CC}$; with sph. $+ \frac{1}{16} = \frac{20}{XXX\ +}$.

* Refers to numbers in original tabulation.

Cases which seem to demand special mention are II. $\frac{15}{XXX-}$ to $\frac{15}{XX-}$ in four months. This is the only one of my cases in which it could be claimed that the pathological process showed any improvement. The refraction became more myopic, and I could see the fundus more distinctly. The conditions of light illumination were similar at each time of testing. The V. of the other eye improved slightly. The case was one of cloudy interlamellar substance, and the improvement of V. was not permanent.

XXII. In which a "Förster" was done to ripen the cataract, which was maturing very slowly. After the iridectomy the optic nerves were found to be atrophic, and the V. improved from $\frac{1}{CC}$ and $\frac{2}{C}$ to $\frac{20}{CC}$ and $\frac{20}{C}$, Dr. Bull ascribing the improvement to clearing of the lens substance.

LII. V. O. D. $= \frac{5}{CC}$, after atropine $\frac{20}{CC}$. Nuclear and peripheral cataract. Iridectomy for ripening one week later, V. O. D. $= \frac{20}{CC}$; six weeks later, ditto. On the strength of the connection between ergot and cataract, gtt. xx. of ext. ergot fl., ordered t.i.d. Nine days after V. $= \frac{20}{CC}$, but can be improved to $\frac{20}{C}$ with sph. $-\frac{1}{48}$. In two months the same glass gave $\frac{20}{LXX-}$, but in four months $\frac{20}{CC}$ again, when it is fair to presume the patient went after a doctor who could understand his case, for the record ceases.

LXXI. A girl, sixteen years old, applied to Dr. Tully for treatment at the New York Eye and Ear Infirmary September 7, 1890. She had under atropine V. O. D. $= \frac{15}{XX}$, after correction with sph. + D. 1.25 in either eye; in the right combined with cyl. + D. 1, axis, 180°. She was ordered sph. + D. 1.25 O. D. January 14, 1891 she returned and came under the charge of Dr. Bull. V. O. D. $= \frac{20}{C}$ corrected both before and after atropine. There were punctate and linear opacities in various laminæ of the lens and pulsation of the branches of the central veins visible to the equator. In one month the V. O. D. rose to $\frac{20}{LXX}$ and V. O. S. to $\frac{20}{L}$ with sph. + D. 1.25. There was no change two weeks later than this. The treatment up to this time had been potass. iodid., gr. x. t.i.d. I changed it to pil. hg. chlor. corrosiv. gr. $\frac{1}{8}$ t.i.d., and the V. did not practically change in two weeks more. The right eye could be brought to $\frac{20}{L}$ with a weak concave cylinder over the sph. + D. 1.25. I then discontinued all medicines, and in two weeks V. O. D. was $\frac{20}{LXX}$ with sph. + D. 0.75 $= \frac{20}{L}$, and V. O. S. was $\frac{20}{L}$ with sph. + D. 0.75 $= \frac{20}{XXX}$. No one who has examined the case doubts the improvement in the condition of the lens, although some of the spots and striæ may still be seen at its periphery.

It would be absurd to claim that improvement in the cataract was the cause of the improvement in V. in all of the thirty-one cases where the V. did not at any time deteriorate. Changes in the illumination, or going toward the patient with the test card at the first examination, and receding from him or her at the second, will explain some cases. In one case of Dr. Bull's V. rose from perception of light to $\frac{20}{CC}$ upon the removal of a dislocated lens from the other eye. Changes in the pathological process may cause improvement of V. without any improvement of the cataract. Improvement in the irregular lenticular astigmatism has heretofore been suggested as an explanation of this. In calling attention to one cause which, I am satisfied, frequently obtains in senile cataract, let me refer to the case of lamellar cataract before mentioned. The patient was a man forty years of age. The vision in the better eye remained absolutely stationary at each test, but after two tests showing $\frac{25}{CC}$ in the worse eye, in eleven months the V. equalled $\frac{15}{C}$ tested with the same conditions of illumination by means of several test-cards. In this case there were interstices of clear lens matter between the opacities. There can be no doubt that the process was absolutely stationary, and the image must have been thrown upon a more favorable portion of the retina through a different space of clear lens matter than at the first examinations. The record of one case of Dr. Bull's, tested five times in six months, shows most variable results. The diagnosis was eventually made of stationary lenticular opacities, the opacities being radiating ones similar to the spokes of a wheel. This case is not included among the ones which I have tabulated. The application of these observations to the cases of ordinary senile cataract, beginning by a separation of the nucleus from the lamellæ, and later having opaque spots and striæ, is so evident that it is not necessary to carry it to its conclusion. It is fair to presume that nobody would be guilty of changing the illumination from the side of the patient to the back to show improvement in nuclear cases, and *vice versa* in peripheral cataract. From twenty-three cases tested both before and after atropine, which I have tabulated, I am satisfied that a careful and proper arrangement of the illumination, to produce either dilatation or contraction of the pupils in suitable cases, would result in apparent improvement of V. almost at the will of the examiner.

Keeping in mind the manifest liability to temporary improvement of V. in many cases of cataract, let us imagine the medical enthusiast as he obtains a case of cataract and conceives a method of treatment at about the same time. What more natural than that the treatment will cure the cataract. Hurriedly testing the V. he applies, or orders the treatment. The V. on the G. K.H. card has reached, say $\frac{20}{L}$, but Y. K. N. A. 4. $\frac{20}{LX}$ has not been surmounted. After an interval of time the patient returns. "Do you not see better, Mrs. Brown?" "Oh yes, doctor." "Try the test-card." The bright star of hope has arisen and sheds its beams full on the XL line, V. A. Z. B. D. on a bright new card. Perhaps easier to read, but giving $\frac{20}{XL}$ all the same. The patient reads it, and improved V. is shown. Then the ophthalmoscope is used, and of course the cataract has improved. Even the patient is willing to acknowledge that.

There are unfortunately a few details still to be attended to after this improvement of V. has been shown. In the first place the case must be proved to have been one of cataract; secondly, something more than a mere statement is necessary to prove that it has been improved, or cured. Perhaps after these two things have been settled beyond cavil, it would still be well to show the efficacy of the treatment by showing that cataracts not treated at all, or treated by any other method, do not show such good results as these special cases.

The statistics that I have presented to-night do not essentially conflict with the generally received ophthalmological, or pathological opinions concerning the course of cataract. There is, however, one moral to be drawn, ophthalmologists can not be too guarded in giving prognoses in cataract cases, and must not so frequently overlook the fact that the peripheral, or equatorial form of incipient senile cataract may progress so slowly, espec-

ially in myopic eyes, as to be practically stationary. For in many of these eyes the course of the cataract would seem to follow more or less the course of the choroidal degeneration upon which, it is perhaps not too much to claim, the lenticular degeneration may depend.

Nothing remains but to formulate a few statements regarding the course of cataract. 1. It is the rule for senile cataracts to show improvement of vision at some time during their course. 2. It is the exception for pathological changes to remain absolutely stationary, to permanently improve, or to disappear. 3. There is as yet no proof that senile cataracts which have involved the lens nucleus have entirely cleared, leaving normal lens fibres. 4. There are opacities involving the equatorial region of the lens which, in certain cases, can not be differentiated from incipient senile cataract by means of the ophthalmoscope alone, which may be stationary. 5. To repeat the opinion of 1857, before cited, slightly modified: "There does not exist in the annals of science one authentic proof that (true senile) cataract has retrograded, or been arrested in its course under the influence of any medical treatment whatever."

118 East Seventy-second Street.

SOME CLINICAL OBSERVATIONS AT THE ST. FRANCIS HOSPITAL.

By A. SEIBERT, M.D.,

Professor of Diseases of Children, New York Polyclinic, Visiting Physician to St. Francis Hospital, and Physician to the Children's Department, German Dispensary.

I. *Diuretin*, or theobrominum natrio-salicylicum, is a combination of theobrominnatrium and salicylic soda, found and first used by Chr. Gram. He was instigated to experiment in combining these remedies by the researches of von Schroeder, who had demonstrated by tests on animals that caffein and theobromin both had unfailing diuretic virtues, even when given in small doses, evidently due to direct action upon the kidney epithelium. Furthermore, it was found that theobromin had no effect upon the central nervous system and the vaso-motors, while caffein caused contraction of blood-vessels by irritating the vaso-motor nerves. Gram's trials of pure theobromin proved the necessity of altering it so as to make it more soluble and less nauseating to the stomach, and his experiments resulted in the combination called diuretin.

Since Gram's report on the action of diuretin in nephritis, and cardiac derangements impeding circulation so as to cause œdema and ascites, Reisler, Koritschoner, Konindjy-Pomerantz, and Hoffmann have published observations sufficiently favorable enough to induce me to give this remedy a fair trial, and so it has been used by me in the St. Francis Hospital and in private practice, from January 1st to July 1st, of this year.

It would take too much time and space to mention all cases in which diuretin was given, and therefore I will but describe one case of each category.

(*a*) *Acute Nephritis.*—Male, aged thirty, alcoholic history. Admitted January 10, 1891. On December 27th patient had noticed shortness in breathing, swelling of feet, and diminution of urine. On admission he presented hypostasis of left lower lobe of lung, marked œdema of face and lower extremities, scanty urine, fifty per cent. albumin (by volume), hyaline and granular casts. Ordination: Diuretin, 10.0 (⅓ ounce), aq. destill., 180.0 (6 ounces), a tablespoonful every two hours.

Quantities of urine (for twenty four hours) in ounces:

January 12th	Diuretin	= 38 ounces.	January 18th	= 87 ounces.
" 13th		= 42 "	" 20th	= 94 "
" 14th		= 48 "	" 21st	= 98 "
		58 "	" 23d	= 110 "
		76 "	" 25th	= 116 "
			" 26th	= 119 "

On February 6th all œdema had disappeared; albumin present in but small quantity; general condition much improved; lungs clear; appetite good. Discharged at request. During the test the same moderate quantity of fluids was given. Pulse strong and normal since day after diuretin was all taken.

(*b*) *Nephritis Chronica.*—Male, aged thirty; general œdema. Pulse 96.

Quantities of urine in ounces, from June 1st to 27th, diuretin (10 to 180) taken on June 2d, 3d, and 4th: 24, 11, 12, 18, 14, 17, 20, 22, 29, 36, 71, 66, 84, 69, 73, 67, 90, 113, 116, 137, 115, 110, 67, 68, 55, 35, 63, 41, 64, 56, 67, 82, 72.

June 27th.—Albumin and œdema have disappeared; appetite good. Pulse normal, strong, and full since third day after diuretin was taken.

(*c*) *Stenosis Aortæ, Insuff. Valv. Mitralis.*—Male, aged fifty-three; albumin; general œdema; bronchitis; pulse 110; hypostasis; dyspnœa; alcoholic history. Admitted June 15th.

Quantities of urine in ounces from June 16th to July 1st: 27, 22, 28, 34, 52, 67, 84, 98, 110, 126. June 27th, œdema has disappeared; pulse has become normal, strong, and full, improving twenty-four hours after diuretin was taken; no albumin.

General Remarks.—In all cases an even quantity of fluid was given to the patients. It is of importance to note that the diuretic action of the drug increased from day to day, until two to three weeks after it had been taken, thus showing that the irritation or stimulation of the kidney epithelium continues for a long time—to my mind one of the greatest virtues a remedy can have. In a number of cases of fatty heart, cirrhosis of liver, and far advanced cases of parenchymatous nephritis (where but little epithelium was left in the kidneys), no action appeared from this drug at all, even though the above dose was repeated four to six times within a few weeks; with other cases in private practice I have in all given diuretin to twenty-five patients, and can sum up my notes in the following: Diuretin is a powerful diuretic in doses of ten to twelve grammes given in forty-eight hours, in cases of valvular heart lesions, acute and chronic nephritis. It is also an excellent heart stimulant, increasing blood-pressure, reducing abnormal frequency, and correcting irregularity of heart action. No bad effects were ever noticed, and even not there, where ten grammes were given repeatedly without the desired effect. Naturally, wherever diuretic action appears the heart's action improves, and where the one fails the other does also.

In accordance with other observers, no action whatever was noticed by me from this drug in cases of cirrhosis hepatis, fatty heart, aneurysma aortæ, and in far advanced cases of chronic nephritis, so that the latter fact may be of use for prognostic purposes. As Geisler also had prompt action in a case of acute scarlatinal nephritis in an adult, this new remedy will undoubtedly be used with much benefit in acute nephritis following infectious diseases of children (scarlatina, varicella, pneumonia, morbilli, etc.), because it may safely be employed with benefit to kidneys and heart.

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II. *Camphoric acid* has lately been recommended for the night-sweats of phthisis,[1] but before this had been employed with much benefit in purulent cystitis and pyelitis, showing a decided "antiseptic" action. For the last two years this drug had given me much satisfaction in the treatment of purulent cystitis (gonorrhoica), pyelitis, and bronchitis, reducing the number of leucocytes and of the bacteria in the secretions of the respective mucous membranes, as well as stimulating the heart's action. I therefore decided to give camphoric acid an extended trial in those forms of bronchial catarrh and broncho-pneumonia complicating and follow-

[1] Leu: Wien. Med. Woch., February 6, 1890.

ing the severe attacks of influenza. It was given in powder form, eight grains three to six times a day, the latter being exceptional.

The cases of influenza received at the St. Francis Hospital during my service (January 1st to July 1st) were all complicated by more or less severe bronchitis, particularly of the capillary variety, consolidation of the right base, and often of both. Two-thirds of our patients were men, and of these at least two-thirds were habitual topers, whiskey being used more than beer. I do not intend to bring statistics more than to state that we had but four deaths from influenza-pneumonia. The best time to begin with camphoric acid in these cases appeared to be when the secretion of the mucous membrane of the respiratory tract had a yellow purulent character, the tongue was dry and furred, the odor *ex ore* fetid, the heart weak, the pulse thin and fast (120 to 150), consolidation complete, the dependent bronchioli full of mucus, and respiration labored.

The first signs of improvement after giving camphoric acid were noticed invariably on the tongue and in the bronchi. The fetid odor subsided after two days; the tongue became moist, the fur receding, and the small, dry, crepitant râles gave way to vesicular breathing and large moist râles; the expectoration increased, large quantities of muco-pus being coughed up. The area of dulness gradually diminished in size, but usually, long before it disappeared entirely, the patient's tongue would be clean and moist, and appetite—this most wished-for of all symptoms in such tedious cases—would appear.

In private practice I had to record one death, in a female, aged sixty, who had suffered for years from fatty heart, emphysema, and bronchitis. In the hospital one of our patients, besides capillary bronchitis of both lungs, even of the apices, had areas of dulness extending from the right apex back to the base and forward to the mammilla, on the left from the base upward to the scapula and forward to the axillary line; the respiration accordingly near 40, and the pulse usually 144 to 150 per minute, the feebleness of the heart-muscle ultimately producing embolism of the right femoral artery. Eight grains of camphoric acid, given six times a day at this critical period, had a most marked effect, and the man made a complete and comparatively speedy recovery.

To my mind camphoric acid is a most valuable remedy in disinfecting the mucous surface of the respiratory tract. Bad effects like nausea or loss of appetite were not noticed; on the contrary, the powder was always well taken and retained without complaint. To avoid being misunderstood, I wish to here state distinctly that I do not consider camphoric acid a specific in bronchitis and pneumonia of influenza, but a most valuable internal disinfectant of the bronchial mucous membrane. In the night-sweats of phthisis I usually give fifteen grains at 8 P.M., and in the few cases we have at the hospital it had the desired effect in about four-fifths of the cases. This dose also never gave rise to any visible unfavorable symptoms, nor to complaints on the part of the patients.

III. *Rectal Administration of Salicylic Soda in Inflammatory Rheumatism.*—In an article on "Rectal Medication," published in the *Medicinische Monatsschrift*, April, 1889, I was the first to point out the necessity, value, and expediency of giving the salicylic soda in solution per rectum. For the last five years it has been my habit in private practice to order this drug to be injected into the rectum, instead of giving it by the stomach. Nearly all our remedies entering the stomach cause more or less irritation, some loss of appetite, others distention, distress, and nausea. Salicylic soda ranks high in the latter class.

Occasionally we meet with patients who appear to have no ill effects from large, frequent, and protracted medication upon their stomach digestion, but I venture to hold that this only appears to be so, and then only to the superficial observer. In acute attacks of rheumatism it is of the utmost importance to give large and frequent doses of salicylic soda, so as to check the career of the rheumatic germs as soon as possible, and thus (unless the mischief has already been done) to prevent an endocarditis. The experience I have had in the administration of this specific anti-rheumatic remedy per rectum, particularly in children, justifies me in claiming that this imperative indication can be much better followed by giving the drug per rectum than by the mouth. Aside from the fact of frequently producing nausea, increasing the paucity of digestion, and causing distress, and very soon most marked adversity to this medication in the patient, it is a fact that more of the drug is absorbed and in less time per rectum than when given per os in acute attacks. In those hospital cases where gastric disturbance was caused by salicylic soda in the stomach, rectal medication was resorted to, and usually with much better effect. In fresh attacks in adults we have given twenty grains of the soda every hour, during the first twelve hours, six doses the next day, etc. In but very few cases signs of tenesmus appeared, and only after long-continued treatment in the more chronic varieties. To illustrate, I can record the case of a boy of five years, who had been in bed for six months with swollen knees, ankles, toes, and finger-joints, almost reduced to a skeleton, with marked anæmia, mitral insufficiency, and such an irritated stomach that the very sight of a medicine-spoon made him vomit. This child was given, from March 21st to April 12th (according to the record of the druggist), 608 grammes (20½ ounces) of the salicylic soda per rectum, the prescription being natr. salicyl., 8.0; aq. dest., 180.0, every two hours a tablespoonful. The result was that by that time (after three weeks of treatment) the boy could ride a tricycle for the purpose of exercising his joints and muscles, the pain having left him after the first six doses, and his appetite returned never to fail again. Aside of muriatic acid and pepsin, this little patient had taken no medicine by the mouth, a weak solution of the iodide of potassium being also given per rectum. In hospital practice rectal medication involves time and labor, but in private practice salicylic soda may be given per rectum as well as antipyrin, with much benefit to the patient and the practitioner.

IV. *Irrigation of the Colon in Typhoid Fever.*—Since Backhaut, at Mosler's clinic,[1] first recommended irrigation of the colon with a five per cent. solution of tannic acid, I have made use of this method, with the modification of using plain warm water instead. The limited number of cases of typhoid fever seen at the hospital, treated by this method of washing the colon two times daily, giving the proper diet and some muriatic acid and pepsin per os, have made speedy recoveries.

To my mind the value of flushing the colon at regular intervals is in cleansing it. No doubt the constitutional symptoms of typhoid are due to absorption of impurities (pathogenic germs and their products) from the diseased intestines, as vomiting and diarrhœa in summer-complaint (better called "milk-poisoning") of infants and young children, is due to the presence of decomposing food in the alimentary canal. We can wash out the stomach of an infant and check nausea (provided œdema of the brain and meninges has not yet developed), and we can clean the colon two to three times a day, and thus materially aid in cleansing the bowel of pathogenic germs; and so we can clean the colon of the typhoid patient and prevent the accumulation of typhoid and other bacteria and their absorption from the colon.

If cleansing of the colon is resorted to in the early stage of typhoid, we first notice its beneficial effects upon the nervous system. In all of my cases insomnia disappeared after the first two washings. If the case comes in hand in the second or third week, a decline of temperature usually follows the first irrigation. Statistics amount to nothing in typhoid unless very large figures are given; but if in every case of a limited number the beneficial effect of a certain course of treatment has appeared the same night and the next day, and improvement has been steady since, then even a small number of

[1] Deutsch. Med. Woch., July 18, 1889.

cases may venture to speak for itself. Since adopting bowel-washing I have had no deaths. My youngest patient was twelve, and my oldest seventy-seven years of age; a son of the latter had died of typhoid under another's treatment two months before his mother took sick. In the boy, the first patient I ever employed this treatment on, a hemorrhage occurred after washing his bowel for six days, and after all severe symptoms (temperature of 105° F., profuse diarrhœa, delirium, and insomnia) had disappeared, which led me to desist from further injections in this case. In our cases at the hospital the temperature invariably was lower the next day after the first irrigation, the normal usually being reached from 104½° F. to 105° F. in from six to eight days.[1]

Regarding the diet of typhoid patients, I must here admit that I am no friend of the so-called milk-diet. Typhoid is a disease of the intestines, causing high fever and general symptoms by the absorption of pathogenic material from the intestine. If milk-diet is not justifiable in the ordinary "catarrhal" intestinal disturbance of the adult and infant, why, then, should it be so where a well-known typical form of intestinal disease is before us? If we feed the bacteria more than the child in intestinal catarrh by giving milk, why, then, do we commit the same error in typhoid by giving this food? In both affections we have decomposition of food in the intestine; in typhoid as well as in summer-complaint we may observe nausea, vomiting, distention of stomach and intestines, increased diarrhœa and rise of temperature after the administration of milk. To put lime-water in the milk does not prevent its later infection in the intestine, nor does its sterilization. If we discard milk in intestinal catarrh and enteritis, why not in cases where we have almost entire suspension of digestion, assimilation, and absorption of food, and a large quantity of pathogenic fermenting material passing over typhoid ulcers? Reflections of this kind have forced me to discard milk entirely as a food in typhoid fever. Boiled soups of rice, dried peas, oatmeal, lentils, and barley, and cold water, tea, and coffee *ad libitum*, have served my patients well. The soups are only given three times a day. Distress and tympanites caused by development of gases have never since troubled my patients in typhoid fever.

Clinical Department.

SENILE GANGRENE—AMPUTATION—RECOVERY.

By GEORGE S. HARKNESS, M.D.,

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I HAVE been induced to report the following case for the reason that it is somewhat rare, and that the treatment was not exactly orthodox.

Philip H——, seventy six years of age. I was called February 19, 1891, and found the patient complaining of a severe pain in the little toe of the left foot. He had been suffering for about two weeks, during which time the pain had been severe enough to prevent sleep, and, as he said, was "getting worse all the time." Attributing the trouble to a bad corn, he had applied the various cures to be had in the shops, but not obtaining relief had concluded to discharge the druggist and hire a physician—to change doctors, as it were.

On examination I found that although the patient complained of severe and continuous pain, firm pressure over the part did not noticeably increase his suffering. The toe itself was evidently somewhat anæsthetic, for an incision carried down to the bone occasioned no complaint and caused little or no hemorrhage. I ordered hot fomentations and an anodyne, and told him that I would call again in a few days. By that time discoloration had supervened and established the diagnosis.

The pain was intense. To control it, he had to be kept pretty well under the influence of morphine—so much so that the family objected to its use, complaining that it caused delirium. I tried other anodynes, but to no purpose. One thing peculiar in this connection was that he could not endure hot applications, and he was more comfortable with the foot depending than elevated.

March 16th.—A line of separation having measurably formed, I amputated the toe. My reasons were twofold:

1. I was in hopes of affording some relief to the pain. 2. He had had one or two chills followed by fever, so that I feared septic absorption, and thought that the wound might afford some drainage. In neither, however, was I successful. The pain continued as before—excruciating, agonizing. The tissues were hard and boggy, and little or nothing escaped from the wound, although it was dressed open. Discoloration began to appear in the adjoining toe and extended into the arch of the foot. I cut out a portion of the metatarsal bone, and made openings higher up, introducing drainage-tubes, but the discharge from them was very slight. The gangrene showed no indication of limiting itself, and as he could not endure fomentations and insisted on keeping his foot depressed, there seemed nothing to do but to give anodynes and to wait. He continued, from time to time, to have chills, followed by fever and sweating. The administration of quinine did little or no good.

April 3d.—Without waiting longer for the line of demarcation, which as yet gave no signs of forming, and with the assistance of Drs. Payton, Ruggles, and Gibbons, I amputated the leg at the junction of the middle and lower thirds. There was considerable trouble from hemorrhage, inasmuch as the posterior tibial artery was atheromatous and very brittle, the artery tearing in the grasp of the forceps, and the ligature cutting through without occluding the vessel. It was finally included with the surrounding tissue and the hemorrhage controlled. The patient bore the anæsthetic well, and rallied promptly from the operation.

The first dressing was on the fourth day. There was discoloration around five or six of the stitches, about half an inch in diameter. I had tried to do an aseptic operation, but the location and surroundings were unfavorable, and I found considerable pus and blood oozing from the wound. In company with Dr. Payton I removed the stitches, and from that time on it was dressed open. The gangrene did not extend, and in about two weeks the sloughs separated, leaving a healthy granulating surface. Another, which had appeared over the crest of the tibia, also separated about the same time. Subsequently two large sloughs formed, extending up into the leg, one anteriorly and the other posteriorly, but whether caused by the burrowing of pus or an extension of the gangrenous process, I am unable to say. After removing the dead tissue, the cavities were opened and drainage-tubes passed through to the wound below. They gradually closed, and the tubes were removed about May 20th.

May 26th, he left for his home in Arizona. The wound was not entirely healed, but all suppurating cavities were closed, and there was a healthy granulating surface over the stump, nearly or quite two-thirds of which was covered with epidermis. I have had one letter from him, in which he states that he is improving, though not entirely well.

I consider the above operation justifiable on the following grounds: 1. The relief of pain. This of itself ought to be sufficient, for pain alone will destroy life. In this case the pain had been intense, unbearable, continuous, and only yielded to full doses of morphine. After amputation he suffered practically nothing, and the use

[1] The ordinary fountain-syringe is used for rectal irrigation, the buttocks of the patient being elevated, so as to facilitate the flow of the water high up into the colon. Rectal tubes or catheters are unnecessary, and may do harm in reaching typhoid ulcers of the colon.

of anodynes was discontinued. 2. The occurrence of chills indicated the absorption of the septic material. Drainage by incision and tubes had proved of little service, for the reason, I suppose, that vital processes are carried on slowly in tissues imperfectly supplied with blood. Amputation, therefore, afforded the only certain method of removing the source of infection. 3. It conserved the patient's strength and gave him the only chance of ultimate recovery. Although a man who carried his years fairly well, and was inclined to boast of his physical strength, he had become very much reduced. After the operation he rested well and his appetite improved continuously, although there was for several weeks an extensive suppurating surface.

It is easy enough to recognize our own mistakes after they are committed. 1. In this case amputation might have been performed at least three weeks earlier. Nothing was gained by delay, and the exhaustion consequent upon the pain and sepsis was marked. 2. The wound should have been dressed open. The stitches were not tight enough to produce strangulation under ordinary circumstances, yet they caused so much gangrene that the flaps were hardly sufficient to cover the end of the bone. It became necessary, therefore, either to perform another operation or to rely upon granulation. Fortunately the latter proved sufficient. 3. There might be some question as to the point of election in amputation. We decided that there was but little choice between the ankle and the knee. We were above the main arterial branches passing to the foot, and little could be gained by a higher operation, unless it were above the subdivision of the popliteal artery at the knee-joint.

TWO CASES OF SUSPECTED SYPHILIS, THE DIAGNOSIS BEING VERIFIED BY TREATMENT.

By DORSEY M. McPHERSON, M.D.,

WASHINGTON, D. C.

In September, 1889, I was consulted by Mrs. D—— in regard to some tumors which had made their appearance on the left elbow and right instep. She had just returned from New York State, where she had gone for treatment for a cancer of the upper lip, which she said had been so diagnosed by two physicians, one in this city and the other in Philadelphia. I found an elastic growth over the olecranon process of the left ulna and a like growth on the astragalus of the right foot. I also found a tender purplish spot, about the size of a half-dollar, over the crest of the right tibia. My suspicions became aroused, and I more carefully examined the so-called cancer. It was then in a very highly inflamed condition, the result of a caustic paste which had been used in the recent treatment. There were hard nodules along the mucous surface of the lip, which she said resembled the cancer when it first started. The gums were very red and spongy, and upon pressure a quantity of pus was forced up about the teeth. I told her I believed the trouble was not cancer, but due to a blood disease of another character, diagnosing the condition as gummatous ulceration of tertiary syphilis. I prescribed iodide of potassium in fifteen-grain doses and biniodide of mercury one-sixteenth grain three times a day. The dose of the iodide of potassium was after three days increased to twenty grains. After three days' treatment the gums began to improve, no more pus could be forced up, the wound on the lip commenced to heal, and at the end of the third week the tumors had entirely disappeared, together with the tibial tenderness and inflammation. The treatment was continued over a period of eight months, with occasional intermissions. At this date, after eighteen months, there has been no return of any symptoms of the disease.

The husband of this patient met me on the street about March 1st of the present year, and in conversation incidentally mentioned that he was suffering from great drowsiness, in fact could not keep awake. He being somewhat constipated, I told him to take cathartics and more exercise and he would feel better. On March 13th his wife came for me, and said he was in a stupor. I found him on the bed, apparently enjoying a peaceful sleep. By talking in a very loud tone I could rouse him sufficiently to get an answer to a question, but he would at once fall asleep and sometimes would not complete a sentence. His wife informed me that he had been in a sleepy condition for several weeks, would fall asleep at the breakfast-table, and that morning he arose as usual and kindled the fire in the kitchen range, but instead of putting on coal he had gone to the shed and filled the coal-hod with ashes, which he dashed upon the fire. He then went to the water-closet and sat on the stool without removing his clothing, consequently defecating in his clothing, yet perfectly oblivious of the fact. (He is a man of refinement and education.)

I suspected that the possible use of narcotics might account for the great somnolence, but I was not satisfied that it was a cause of the insane acts; then, too, the wife assured me that he was not in the habit of taking drugs. I noticed that his pupils did not respond readily to light, yet were not abnormally contracted nor dilated. I did not prescribe for him then, but told his wife to let him sleep, and I would call in the morning—this was about 10 P.M. After leaving him I recalled the fact that he had met me on the street and told me of an attack of severe headache, accompanied with double vision, also some ataxic symptoms, to which I did not at the time give much weight. When I saw him the next morning, Saturday, March 14th, I found him up and dressed; he recognized me and said he was glad I had stopped in, as he had a severe headache, for which he would like me to prescribe. He talked at random, had a wild expression, and could not recall any events happening since Thanksgiving Day, which he said was on the Thursday preceding. His wife told me that he had been talking all the morning in the most disconnected manner about imaginary events. In taking the whole history of the case into consideration as I had observed it, together with the wife's past illness, I believed I had a syphiloma of the brain to deal with, and that my syphilitic treatment must be pushed vigorously if I hoped to do much good. I accordingly prescribed iodide of potassium in thirty-grain doses three times a day (using trifolium compound as a vehicle). On the third day after beginning treatment he began to realize that he was not right in his head, as he expressed it. He then was aware that he had not been at his office as usual and that there had been a blank. He still suffered from severe frontal headache, worse after 5 P.M. When talking to him on the fourth day he cried like a child, sobbing aloud, the outburst being not unlike an hysterical attack.

On this day, the fourth, I increased his iodide to one hundred grains a day and added one-sixteenth grain of biniodide of mercury three times a day. His headaches continued and his mind was a little flighty for about a week, when the headaches gradually ceased, his eyes took on a natural expression, and he returned to his desk, apparently well, expressing himself so, and has remained so to this time, over two months since treatment commenced. He is now taking one hundred grains of iodide of potassium and one-sixteenth grain of the biniodide of mercury as first prescribed. It has caused no stomach disturbance and but a slight eruption.

The history of both cases is herewith submitted, told in the man's own words. It will be observed that there is no history of the primary sore in the wife's case, neither can it be elicited.

I was married in the winter of 1876; my wife was apparently then a healthy woman, never having been seriously ill, except in 1874, in New Orleans, when she had a severe attack of pneumonia.

About five years after our marriage I noticed that she had a cutaneous eruption upon different parts of her body,

near the joints, knees, elbows, and wrists, and through the scalp, similar to that upon my own person. She was otherwise apparently healthy.

In 1885 a small spot or hard pimple appeared at the left hand corner of her upper lip. On consulting Dr. ——, he pronounced it an epithelioma, treated it during nearly three years with caustics, but it increased and continued across the upper lip. She then resorted to some other kind of caustic treatment (unprofessional), which was continued nearly a year. About this time there appeared upon her left elbow and right foot certain swell ings or tumors. These gradually subsided and in about three weeks entirely disappeared, and the spot on the lip eventually healed up, and has entirely disappeared. During this time she was under treatment with iodide of potassium. There has been no local appearance of the disease for over eighteen months.

In July, 1886, she had her last full menstrual period. It ceased entirely after that date, though she was just past thirty years of age. She has never shown signs of pregnancy. She still has the cutaneous eruption upon various parts of the body, but has not resorted to any particular medical treatment of late to remove it. It disappears to some extent during the heated term, but returns in winter. It is never inflamed or sore. She has complained lately of rheumatic or sciatic pains of the lower extremities, but beyond an extreme nervousness, due probably to her previous treatment, she appears to be in fair health.

Sometime in 1867, when I was but twenty years old, I had a hard spot upon the penis; it was pronounced a chancre and cauterized, and disappeared inside of two weeks, during which time I took iodide of potassium. I neither suffered then, nor had I, apparently, any detrimental effects afterward.

From 1867 to 1871 I had frequent attacks of gonorrhœa, accompanied with gonorrhœal rheumatism. In 1871 I enlisted in the U. S. Army, and was apparently sound and well in every respect. In 1872 I had a severe attack of small-pox, then epidemic, in Philadelphia. I was in hospital fifty-one days, returned to duty, and was well and hearty over two months, when I was attacked with rheumatism, swelling of both feet, the fingers of the right hand, and the shoulders. I was discharged on a surgeon's certificate of disability for "periostitis of internal cuneiform and first metatarsal bones of left foot" in August, 1874.

I became well in time, passed a second physical examination, and was again enlisted in February, 1876, apparently well and hearty.

Had another serious attack of rheumatism in the fall, with much swelling of the lower extremities. Was married in 1876. From 1876 to 1883, beyond rheumatic troubles, had no particular ailment. In 1883 was attacked with symptoms which, I was told by a medical friend, were those of locomotor ataxia, irrepressible hysteria, and an inclination to fall forward when walking. Eventually I was cured of the ataxic symptoms, but the hysteria has continued to a slight extent. Some three years since I was attacked with frequent headaches, occasional periods of inability to reply promptly to questions put to me; although I was fully aware of what reply to make, yet I was unable to speak intelligently, and was as likely as not to make an unintelligent or foreign reply. These attacks were but momentary, and I eventually made a proper reply. I have always had rheumatic attacks, pain, and stiffness of the joints, especially in lumbar region.

On March 13th last, I cannot remember having been unusually out of health, though I have since learned that I had previous attacks of drowsiness or insensibility at my desk, and I had frequent headaches. I became in sensible on my return home and remained in that condition fully forty-eight hours. I lost all memory of past events, though I recognized persons and my surroundings after I recovered sensibility. I have taken over ten ounces of iodide of potassium and five grains of biniodide of mercury. During the past three weeks my severe headaches have entirely disappeared. I have recovered mostly my memory of past events. I am not fully recovered, am rather indifferent to approaching events or to my surroundings. Sleep well, appetite fair, but I must admit to a loss of interest in almost everything, and an utter indifference to final results. Altogether there has been a marked improvement in my general health in the past eight weeks. I can attend to my duties as usual, and only suffer from hysteria occasionally, and an anticipation or rather fear that I may have another attack of mental paralysis.

COLIC NOT A NECESSARY SYMPTOM IN GALL-STONES.

By H. MEEK, M.D.,

[LONDON, ONTARIO.

THAT colic is not always a symptom in gall-stone cases was illustrated by a case which I saw some time ago at the Birmingham Hospital for Women.

A woman, aged fifty-four, presented herself for examination at the out-door clinic of Mr. Lawson Tait with the following symptoms: More or less aching pain in epigastrium, with sickness and loss of appetite. Bowels regular, but stools paler than normal. She had been steadily losing flesh for some time, was slightly jaundiced, and had that cachectic appearance so often seen in malignancy. She had not suffered from colic. Examination of abdomen revealed an indistinct thickening in region of gall-bladder, which Mr. Tait said might be a malignant growth, though he was inclined to think it a gall-bladder distended with gall-stones, and advised an exploratory incision. She was admitted to hospital and exploratory incision made over tumor, when diagnosis of gall-stones was confirmed. The gall-bladder was opened and one hundred and twenty stones of different sizes removed, in all weighing two hundred and sixty-five grains.

The absence of colic as a symptom in this case was explained in the operation. A large stone, weighing sixty-five grains, was found at bottom of sac over mouth of duct which prevented smaller stones from getting into duct and causing colic.

A UNIQUE CASE OF SYPHILITIC INFECTION.

DR. M. KLEINER, of Denver, Col., writes: "Miss C. B——, a female domestic, of good character, consulted me on account of a sore on the upper lip. The appearance of the lesion warranted a diagnosis of chancre, this opinion being verified by the appearance, later on, of the general secondary eruptions and concomitant symptoms. The patient stated she had applied for chapped lips some vaseline, which she found in the room of a young man boarding at the house where she was employed.

"Investigation revealed the fact that the vaseline had been applied to a primary syphilitic lesion of the penis.

"The case is reported as another instance of the many peculiar methods of syphilitic infection."

One Way to Collect a Bill.—A well-known dentist tried hard to collect a bill, but after many ineffectual efforts said to the debtor: "I do not intend to send you any more bills, and I don't intend to sue you; but there is one thing I want to tell you. Every time you cut off a piece of beef-steak and pass it to your wife, I want you to remember that she is not chewing that beef with her teeth, nor with your teeth, but with my teeth." In two or three days he received a check. The notion of those doubly-false teeth in his wife's mouth was too much for the husband.

Progress of Medical Science.

Hemorrhage in Paracentesis Tympani.—Dr. Hildebrandt records the following case of injury to the bulb of the internal jugular vein, following paracentesis of the membrana tympani: A female patient, aged four, complained of sudden severe pain in the right ear. The membrana tympani was found injected and bulging in its posterior inferior segment. Immediately after paracentesis of the membrane had been performed, a large amount of dark-colored blood flowed through the incision and from the meatus. It was necessary to plug the external meatus to check the hemorrhage. The membrane shortly afterward presented in its posterior segment a bluish-red prominence. This prominence was found to vary at times, and especially so when pressure was made upon the internal jugular vein. Professor Trautmann, in whose clinic the case occurred, believed that the prominence was the bulb of the internal jugular vein protruding through a fissure in the floor of the middle ear.—*The Medical Chronicle.*

Acute Pulmonary Congestion of a Pseudopleuritic Type.—Dr. Berthier says there is a form of pneumonia which gives the signs of pleural effusion, namely, complete dulness on percussion and absence of vocal vibrations and breath sounds. It has been termed by Professor Grancher "pneumonie massive." The ramifications of the bronchial tubes up to the larger divisions are filled with exudation. Professor Grancher has also described another form which yields similar physical signs, and which he has named "spléno-pneumonie." He supposed it to be due to a sero-albuminous and epithelial inflammation. Dr. Berthier reports a case occurring in a young man after influenza. There were signs of fluid at the left base, but exploration with the needle was negative. The expectoration consisted at first of pure blood. On the fourth day the patient became much worse; he was cyanosed. Similar signs were found at the right base, with bronchial breathing and bronchophony at the angle of the scapula. Later, friction sounds were heard over the subspinous fossa, first on the right and later on the left side. The patient was discharged well in six weeks' time. Dr. Berthier remarks that the "congestion" was very intense in this patient; the parenchyma of the lungs was infiltrated with blood, as also the smaller tubes.—*Revue de Médecine.*

Fetor of the Lochial Discharges.—In an article on this subject by Dr. Boxall (*The Practitioner*) the following opinions are expressed: 1. That septic infection may take place without fetor. 2. That fetor may occur without sepsis or fever. 3. That fetor is more frequent in cases where the tissues are bruised and torn, and therefore in primiparæ and in operation cases. 4. That fetor is generally (though not invariably) associated with fever, but in such cases the fever almost invariably precedes the fetor by a considerable interval. 5. That the presence or absence of fetor is a very uncertain guide to the presence or absence of sepsis. 6. That in any case, as fetor invariably indicates a failure to maintain local asepsis, vigorous antiseptic measures should be at once instituted. 7. That the vulva and vagina should be first cleansed, and only when this has been done, and where real necessity exists, should the cleansing be extended to the interior of the uterus.

Instrumental Treatment of Enuresis.—Dr. Sänger, of Leipsic, recommends a course of systematic dilatation of the urethra in cases of enuresis both in women and female children. His plan is to introduce a metal catheter well into the bladder, keeping the thumb over the aperture. The instrument is then firmly pressed backward and to each side from eight to a dozen times. It is, of course, useless to make any pressure anteriorly, as the pubes lies immediately in front. Ten or twelve sittings are usually sufficient. During the treatment the patient is desired to control the sphincter as much as possible by means of the will, to take but little to drink, and to keep the abdomen warm. The good effects of this mechanical system of treatment are to be ascribed to increased power gained by the sphincter in consequence of its contractions after dilatation and stimulation. This method is useful where the paralysis is of central as well as where it is of peripheral origin. Where, however, the neck of the bladder and the whole urethra are of very large calibre, it is useless, and in such cases a plastic operation is required.

Acute Ataxy.—Professor Leyden thinks that there are two forms, the central or cerebral and the sensory form of acute ataxy. Both agree in the sudden onset, the rapid course, and in that they follow on acute diseases. The following are the symptoms of the central form: The speech is slow and scanning, but the tongue is freely movable, there is ataxy without loss of power of the extremities, there are psychical disturbances, but the sensibility is intact. This condition very much resembles disseminated sclerosis, and Professor Leyden is of opinion that it is caused by spots of degenerated tissue in the pons and its immediate neighborhood. Sensory ataxy in many points resembles that form of locomotor ataxy which is associated with peripheral neuritis. This, like the other form, may follow acute diseases, but it may have other causes. Professor Leyden concludes his paper by describing a typical case, that of a man, aged fifty-five, who had had syphilis and muscular rheumatism. His acute ataxy appeared to be due to his getting very cold. He suffered from creeping sensations in the legs, numbness of the feet, and ataxy of the lower extremities, loss of both knee-jerks and of the left cremasteric reflex. There was no affection of the upper limbs.—*Zeitschrift für Klinische Medizin.*

The Rise of Temperature in the Epileptic Attack.—In his wide experience of epilepsy at the Bicêtre, M. Bourneville has spent much time in the study of its effects on the temperature, and has come to the conclusion that it always raises the temperature a little at the time of the attack. In the case of single isolated fits, the rise was always clearly perceptible—on an average about 1° F., and sometimes as much as 3° F.; in a series of ten or twenty fits it was on an average larger, about 1.5° F.; and in the cases of status epilepticus there was frequently a temperature of 105° F., and sometimes even of 108° F. M. Duflocq has recently published a few cases of partial epilepsy of subcortical origin, in which only a few observations showed any rise of temperature, which was claimed as abnormal. These have led M. Bourneville to repeat some of his previous lengthy and careful observations. Selecting sixty-seven patients in whom there were single isolated epileptic attacks, he has taken the temperature in each: (*a*) during the stertor immediately succeeding the convulsion; (*b*) a quarter of an hour later; and (*c*) two hours later There is a uniformity in his results which is remarkable. In none of the cases is the temperature at the time of the attack as low as normal, and in none is the temperature not lower two hours later. The average (*a*) in the period of stertor is 100.5° F., (*b*) a quarter of an hour later is 100° F., and (*c*) two hours later is 99.3° F. In nine other cases the rise of temperature culminates at (*b*) 100.5° F. rather than at (*a*) 99.8° F., but sinks at (*c*) to 99.4° F. In that second class of cases in which there are series of attacks with short periods of consciousness between each, M. Bourneville's old observations are found to repeat themselves in four new cases. The temperature after the series of attacks rose on an average to 102.1° F., and fell after eighteen hours to 100.3° F. In the third class, consisting of four cases of status epilepticus which all ended fatally, the rise of temperature was not quite regular during the three or four days that the condition lasted, but rose in all cases over 105° F., and in one case touched 108.4° F. just before death.—*Revue de Médecine.*

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NITROUS OXIDE AND OXYGEN AS AN ANÆSTHETIC.

IN the *American Journal of the Medical Sciences* for August, Dr. William W. Van Arsdale gives a detailed account of his experience with a mixture of nitrogen monoxide and oxygen as an anæsthetic. Nitrogen monoxide alone has been definitely abandoned in minor surgery except for the very shortest operations, such as single incisions and tooth extraction. It produces asphyxia by shutting the oxygen off from the blood; it also produces anæsthesia by its specific action on the blood and nerves. Many experimenters have tried to secure the anæsthetic without the asphyxiating effect. The problem was solved by the late Paul Bert. His method of reasoning, says Dr. Van Arsdale, was this:

Pure nitrous monoxide causes anæsthesia at atmospheric pressure, but also asphyxia. The latter can be obviated by the admixture of as much oxygen as is contained in our atmosphere—*i.e.*, one volume of oxygen added to four volumes of the nitrogen monoxide. If, however, this admixture is made, the tension of the nitrogen monoxide in the mixture is not as great (by one-fifth) as it was before the admixture, and consequently no anæsthesia will be produced. In order to remedy this it is only necessary to increase the atmospheric pressure by just so much as the tension of the nitrogen monoxide gas is weakened by the addition of oxygen, namely, by one-fifth atmosphere. If this be done the result of inhalation will be anæsthesia without asphyxia.

The practical problem presenting itself for solution was how to obtain the atmospheric superpressure. It was solved by Paul Bert by building a hermetically-sealed glass cage with proper arrangements attached for increasing the atmospheric pressure. Into this cage the patient and the surgeons and assistants were all admitted, and here the gas was administered.

The practical obstacles in the way of this method are the expense of the apparatus, which alone amounted to 10,000 francs, and the difficulty of its transportation.

With this arrangement, however, success was manifest. A large number of operations were performed by L'Abbé and Péan.

Subsequent experimenters confirmed in general the views upon which Bert's method was based. A good many tried to use mixtures of the nitrous oxide and oxygen in varying proportion, with only moderate success. Dr. Van Arsdale began his experiments with mixtures containing twenty and fifteen per cent. of oxygen, but the results were not very uniform or satisfactory. They were better with a ten per cent. mixture, and this was the combination finally adopted. The great difficulty in most cases was found to lie in the fact that patients would not breathe deeply. Hence it was proposed to give the gas under a pressure which would force the air into the lungs. This was done by fitting an air-tight mask to the face and placing a board weighted to five pounds on the reservoir bag. It was found that the first bag of gas from the cylinder contained too much oxygen, and it was not used; the last one contained too much nitrous oxide, and caused slight cyanosis. The large cylinders were the better.

The results obtained by using the mixture under pressure as described were in some cases brilliant, but there were also failures, due to nervousness, idiosyncrasies, and perhaps alcoholism.

Dr. Van Arsdale says: "We find the field for the administration of mixtures of nitrogen monoxide and oxygen considerably narrowed down, and are obliged to rule out, as unsuitable, quite an appreciable percentage of all the cases we may be called upon to treat.

"In the majority of cases, however, in young, healthy individuals and in females, the anæsthetic mixture, when administered under pressure, was found to work well and to be much superior to the pure nitrogen monoxide for surgical purposes. It induces a state resembling a quiet, deep sleep, in which the respiration is slow and regular, the pulse regular and full, and not much, if ever, increased in frequency. The blood-pressure is not increased; and insensibility to pain and unconsciousness go hand-in-hand.

"We have," he says, in conclusion, "in the ten per cent. mixture of oxygen and nitrogen monoxide an anæsthetic which may be administered with perfect safety and for a sufficiently long time to permit of the circumspect performance of most minor operations, but one which may be characterized as a weak anæsthetic. For although it will plunge the average adult into a state resembling peaceful slumber, in which anæsthesia and unconsciousness are well marked, it cannot gain victory over states of great nervous excitement or dread, or certain habits or idiosyncrasies."

These conclusions appear to have been carefully worked out, and to present very truthfully the present position of the subject of nitrous oxide anæsthesia.

THE INTERCONTINENTAL AMERICAN MEDICAL CONGRESS.

A MEETING of the Committee on Organization of the Intercontinental American Medical Congress will be held in St. Louis on October 14, 1891, when the time and place of meeting of the proposed Congress will be decided upon. It is needless to say that this will be a most important meeting, for upon its outcome will doubtless rest the success or the failure of the Congress.

As regards the time of holding the Congress, there will probably be little difference of opinion, for it could be held only in 1893. To set any other year than that of the Columbian Exposition for its meeting would be to insure its failure. Our Latin-American confrères would

not make two journeys to this country in successive years, and if they had to decide between the Medical Congress and the Chicago Fair, we fear the Congress would suffer. The fact that the International Medical Congress will also convene in 1893 need not be taken into consideration. Of course, the American Congress should be called for such a time as not to interfere with the International. But if the date of meeting of the latter is not announced before the convening of the American committee, they must set a time, and let the International select some other time that will not interfere.

There will probably be less unanimity concerning the place of meeting, although we think there is but one city where it can be held. Chicago should by all means not be selected. It will be crowded with strangers off on a holiday and devoting their entire energies to sightseeing and amusement, and its atmosphere will not be congenial to scientific thought. Doubtless, all those taking part in the deliberations of the Congress will want to visit the Fair, but they can do this before or after the medical work. Most of the Mexican visitors to the Congress would probably reach this country by rail, but those from the West Indies and Central and South America would all come by sea and, with the exception of a few coming by way of San Francisco or New Orleans, disembark in New York; so that the objection of entailing the fatigue and expense of an extra journey on the members if the meeting were not held in Chicago, cannot be raised. The Congress is to be an American meeting, held in the United States as being the leading American country, and will without doubt be endorsed by the Senators and Representatives in the next Congress as being under government patronage. In such cases, therefore, it seems to us that there is but one city in which the Congress, the first one at least, should be held, and that city is Washington, the capital of America.

CUTANEOUS GEROMORPHISM.

In the *Nouvelle Iconographie de la Salpêtrière*, Drs. Souques and Charcot describe, under the novel title of "Géromorphisme cutané," a unique affection, producing changes in the skin of a young girl which give to her the appearances of old age.

The case first came under the observation of Dr. Laurand in 1881, when the patient was eleven years of age. At that time the changes in the skin, which were already remarkable, were attributed by the parents to a severe fright. The face was most noticeably changed, and suggested a facial paralysis from the obliteration of the natural lines and lack of facial expression. The skin hung in loose folds such as are sometimes seen in extreme age, and appeared as though it had been overstretched from some preceding œdema and had remained too flabby and loose in consequence; but there was no history of œdema having been present. The skin was neither thickened nor indurated, and the condition was plainly not one of elephantiasic enlargement.

Preceding the changes which have been described an eruption had appeared upon the trunk and extremities, lasting for several months, and coming out in crops. The nature of the disease was not made out at the time, but, from the descriptions given, might well have been a form of urticaria. Later on, after the patient had entered the hospital, there occurred another eruption, resembling in appearance and course an erythema nodosum. This rapidly disappeared without apparent influence upon the chronic changes, which had already become well established and had altered the features of an intelligent and pretty child of eleven years into those of an old woman.

No diagnosis was made and no improvement took place. Ten years later, at the age of twenty-one, the patient again entered the hospital and came under the observation of the authors.

Time had only served to intensify the changed appearance of the whole body. There was no evidence of œdema, abnormal pigmentation, or eruption. The skin had simply lost its consistence and elasticity. If lifted up, folded over, twisted, or displaced in any way, the portion of skin thus treated would keep the new position in which it was placed, or return very slowly to its original form, thus resembling the skin of a cadaver. The functional activity of the skin was not interfered with, and the surface was neither dry nor scaly. Perspiration was, however, diminished.

The hair, nails, and teeth were in normal condition There was no pain nor pruritus in the skin. and no evidence of trophic or vaso-motor disturbance. The skin had, in a word, become too large, falling in folds, and becoming wrinkled and furrowed, and abnormally movable upon the subcutaneous planes. The changes are seen to be principally in the dermic, rather than in the epidermic portions; but as to just what has brought about these changes the authors do not feel justified in concluding from their study of the case so far made.

The condition appears to be a special pathological one, without analogy among the recognized dermatoses. Precocious senility is out of the question, as in the latter the hair and teeth are implicated, the digestive functions are impaired, the respiratory acts are diminished, and the muscular system is weakened, which was not at all the case in the instance described.

The parents were found to be healthy, and nothing in the family history pointed to anything analogous, or aided in the solution of what cutaneous geromorphism really is.

News of the Week.

American Electro-therapeutic Association.—The first annual meeting of this Association will be held at Philadelphia, Pa., September 24, 25, and 26, 1891. The following is the programme of the meeting: "President's Address," by Dr. G. Betton Massey, of Philadelphia; "Electro-Therapeutics in America: An Historical Survey," by Dr. A. D. Rockwell, of New York; "The Action and Application of the Faradic Current in Gynecology," by Dr. Augustin H. Goelet, of New York; "Alternative Currents," by Dr. Horatio R. Bigelow, of Philadelphia; "The Treatment of Corneal Opacities by Galvanism," by Dr. C. A. W. Alleman, of Brooklyn, N. Y.; "Report of Seventy-five Cases of Uterine Myomata Treated by Electricity," by Dr. J. H. Kellogg, of Battle Creek, Mich.; "Two Cases of Fibroids where Electricity Ceased to Control Hemorrhage after a Time, although Eminently Satisfactory at First," by Dr. H. E. Hayd, of

Buffalo, N. Y.; "The Treatment of Fibroids by Electricity," by Dr. W. H. Hutchinson, of Providence, R. I.; "Electro-puncture in Uterine Fibroids," by Dr. G. Betton Massey, of Philadelphia; "Electricity in Chronic Parametritis," by Dr. Von Raitz, of New York; "Report of a Case," by Dr. A. H. Buckmaster, of Brooklyn; "Some New Applications of Electro-therapeutics," by Dr. Frederick Peterson, of New York; "The Analgesic Effects of Galvanism," by Dr. Landon Carter Gray, of New York; "Electricity in Diseases of the Stomach, with Exhibition of Patient," by Dr. Lawrence Wolff, of Philadelphia; "Electricity in Carcinoma," by Dr. Robert Newman, of New York; A paper by Dr. W. J. Morton, of New York; A paper by Dr. Henry McClure, of Cromer, England; "Some Points in the Technique of Electrolytic Epilation," by Dr. Plym S. Hayes, of Chicago, Ill.; "A Rare Case of Twin Extra- and Intra-uterine Pregnancy Treated by Electricity," by Dr. G. H. Whitcomb, of Greenwich, N. Y.; "Electricity in the Treatment of Rheumatism," by Dr. W. F. Robinson, of Albany, N. Y.; "The Treatment of Subacute Articular Rheumatism by Electricity," by Dr. M. A. Cleaves, of New York; "Electricity in Anchylosis," by Dr. Von Raitz, of New York; "Has Electricity any Action as a Germicide, or in Producing Poisonous Results in Food," by Dr. W. R. D. Blackwood, of Philadelphia; "Exhibition of a Rectal Electrode, with Remarks on its Application," by Dr. Guy Hinsdale, of Philadelphia; "Abdominal Electro-puncture in an Ovarian Tumor," by Dr. G. Betton Massey, of Philadelphia; "Eight Months' Work in the Dispensary for the Treatment of the Diseases of Women by Electricity," by Dr. H. R. Bigelow, of Philadelphia.

A Medico-legal Institute in Paris.—The municipal authorities of Paris are about to erect a building near the Morgue where all facilities will be provided for the prosecution of medico-legal researches. There will be rooms for post-mortem examinations, chemical and microscopical laboratories, a dark room for photography, an amphitheatre for students, rooms where inquests may be held, etc. All the laboratories now scattered throughout the city will be brought together in one place, so that examinations of suspected cases can be made with much greater ease and despatch.

Body Snatching in Berlin.—A woman died a few days ago at one of the hospitals of Berlin after a capital operation. The case was one of unusual interest, and permission to hold an autopsy was asked for but refused by the husband. So he obtained the body and buried it, but soon after heard that a substitution had been made, the corpse buried by him being that of a stranger, while his wife's body had been retained for the autopsy and afterward buried in Potter's Field. The remains were exhumed and identified, and now the husband has brought suit for heavy damages against the surgeons.

Zeitschrift für Orthopädische Chirurgie.—With the beginning of this year the *Centralblatt für Orthopädische Chirurgie*, edited by Dr. Beely, of Berlin, was discontinued, and a new quarterly journal, the *Zeitschrift für Orthopädische Chirurgie* was established, under the editorial charge of Dr. Alfred Hoffa, of Wurzburg, assisted by a number of the leading orthopedic surgeons of Germany. The English and American editors are Dr. Robert Jones, of Liverpool, and Dr. John Ridlon, of New York, respectively, who furnish reports of the current English and American orthopedic literature. The publisher is Ferdinand Enke, of Stuttgart. The first number, which we have just received, is a royal octavo of one hundred and twenty-two pages, and is in every way a credit to both editor and publisher.

The Apothecary is the name of a new quarterly journal of pharmacy and materia medica, the first number of which is dated in Chicago, August, 1891. It is edited by Mr. Oscar Oldberg, and published by the Illinois College of Pharmacy. It is neatly printed on good paper, and contains, as none who knows the accomplished editor need be told, a large amount of matter of great utility to the pharmacist and student.

A Generous Donation.—For the successful treatment of his wife by a dangerous surgical operation, performed by Dr. Michelsen, of Wiesbaden, Herr von Donner, a merchant of Hamburg, has placed at the disposal of the authorities in Hamburg, as a thank-offering, the sum of two million marks. This money is to be expended in the erection of a hospital in Hamburg, in which Dr. Michelsen is to be installed as chief physician.

Water as a Local Anæsthetic.—Dr. Sleich, of Berlin, states that subcutaneous injections of distilled water will render the part insensible to pain for several minutes, until the wheal caused by the presence of the water has disappeared. He has employed this method to produce local anæsthesia preliminary to the opening of a carbuncle, and was able to incise the parts deeply, and scrape out the diseased portion without any complaint of pain on the part of the patient.

Ambulance Drill in the National Guard.—Some changes have recently been made in the organization of the ambulance corps in the State Militia. For a regiment or battalion the corps will consist of the medical officers of the command, the hospital steward, and as company bearers three enlisted men from each company of seventy-five men, and two enlisted men for each company less than that number. For a troop, battery, or separate company the corps will hereafter consist of the medical officer and four enlisted men. The medical officer in charge of each corps will provide for his men a course consisting of rudimentary instruction in anatomy and physiology, rudimentary instruction in the diagnosis of the nature of accidents and disease manifestations to which National Guardsmen are subject, and the common means for the prevention and treatment of the same; instruction as to the common means employed for the urgent relief of the sick and the injured, including stretcher drill and matters pertaining to transportation of the sick and injured; instruction in individual and camp hygiene.

Dr. William A. Spotswood died in Mobile, Ala., September 7th. He was born in Virginia in 1806. After his graduation as a physician he was appointed in 1829 to the navy, where he served continuously up to 1861, when he resigned to enter the Confederate Army. He served throughout the war as surgeon in Richmond, and at its close retired to Mobile.

Dr. James Ramsey Speer died recently in Pittsburg, in the ninety-fifth year of his age. He was born in Chambersburg, November 19, 1796, and was graduated from Washington College in 1816, being at the time of his death its oldest living graduate. He went to Pittsburg in 1825. He retired from active practice in 1873.

Typhoid Fever is reported to be prevailing to an unusual degree in a part of Wheeling.

Miss Christie, who was graduated recently from the Glasgow University as M.B., was the first woman educated in the Glasgow Medical School.

The Death of a Woman from Methylene was reported not long ago from a small town near Manchester, in England. She was about to undergo an operation for cancer, but died while being anæsthetized.

Dr. J. B. Eggleston, who was graduated this year from the Albany Medical College, was drowned on the night of August 30th, off the coast of Newfoundland. He had been on a trip to Labrador in the steam yacht Albatross, which was wrecked on the reef off Gull Island.

Dr. Joseph Graves Chinn died at his home in Lexington, Ky., on September 7th. He was the oldest physician in Kentucky, having been born on April 1, 1797. He attended lectures at the University of Pennsylvania, and moved to Lexington in 1834. He was married three times, the last time when he was eighty-two years old, and had twelve children and sixty or seventy grandchildren and great-grandchildren.

Vaccinating with Steel Pens is recommended by a French physician. The pens are cheap enough to allow of a fresh one being used for each operation, and thereby all danger of infection from the lancet is avoided.

Dr. Ira D. Strang died at his residence in Ketchum's Corners, N. Y., on Monday, August 31st, aged eighty-one. Up to a few days of his death he had been in excellent health, and able to attend to his professional duties. He leaves a widow and three sons.

The Doctor and the Kaiser.—A correspondent of the *Tribune* says that in view of the connection of Sir Morell Mackenzie with the case of the late Emperor Frederick of Germany, and of the disfavor with which both he and his book were regarded by the present Emperor, there was much curiosity in England to know whether, in the capacity of Chief Surgeon to the Queen's Westminster Volunteers, he would present himself for inspection with that command before Queen Victoria's imperial grandson, a fortnight or so ago. But on the two occasions when he would have been likely to encounter Emperor William Sir Morell absented himself.

American Pediatric Society.—The following is the programme of the third annual meeting of this Society, to be held in Washington, September 22, 23, 24, and 25, 1891:

Tuesday, September 22d.—"Address of the President;" "How to Prevent Complications and Sequelæ in Scarlet Fever," by J. Lewis Smith, M.D., of New York; Discussion on "The Diagnosis of Pneumonia in Infancy and Early Childhood." 1. "The Most Diagnostic Symptoms of the Early Stage of Lobar Pneumonia, and the Differential Diagnosis from such Diseases as Meningitis, Malaria, Scarlet Fever, etc.," by T. S. Latimer, M.D., of Baltimore. 2. "The Diagnosis of Consolidation of the Lung from Effusion (Serous or Purulent), and the Differential Diagnosis between Lobar Pneumonia and Broncho-pneumonia," by F. Forchheimer, M.D., of Cincinnati. 3. "The Diagnosis of Broncho-pneumonia (Acute and Chronic) from Tuberculosis," by William Osler, M.D., of Baltimore. 4. "The Diagnosis of Broncho-pneumonia from Bronchitis, also the Temperature Range in Acute Pneumonia, both Broncho and Lobar," by L. Emmett Holt, M.D., of New York. 5. Remarks by A. Jacobi, M.D., of New York, and by W. P. Northrup, M.D., of New York. 6. General Discussion.

Wednesday, September 23d.—"A Specimen of Congenital Heart Disease," by William Osler, M.D., of Baltimore; "Manifestations of la Grippe in Children," by Charles Warrington Earle, M.D., of Chicago; "The Treatment of Laryngeal Diphtheria by Calomel Sublimations," by Dillon Brown, M.D., of New York; Further Report on "Submembranous Local Treatment in Pharyngeal Diphtheria," by A Seibert, M.D., of New York; "A Case of Ulcerative Catarrhal Dysentery," by W. D. Booker, M.D., of Baltimore; "Stricture of the Œsophagus Occurring in Children, with Report of a Case," by F. E. Waxham, M.D., of Chicago; "A Case of Pulmonary Abscess—Operation and Recovery, with Remarks," by Francis Huber, M.D., New York.

Thursday, September 24th.—"Exhibition of Laryngeal Tubes for the Performance of Forcible Respiration," by J. O'Dwyer, M.D., of New York; "A Study of Fifty Cases of Chorea," by Samuel S. Adams, M.D., of Washington; "A Study of One Hundred and Forty Cases of Heart Disease in Children" (by invitation), by Floyd M. Crandall, M.D., of New York; "Dysentery in a Boy of Eleven Years—Presence of Amœba Coli," by H. Lafleur, M.D., of Baltimore; "Scorbutus in Children," by W. P. Northrup, M.D., of New York; "Chronic Nephritis in Children," by Henry Jackson, M.D., of Boston; "Two Cases of Acute Primary Nephritis in Infants," by L. Emmett Holt, M.D., of New York; "Scarlatinal Nephritis in Children," by J. Lewis Smith, M.D., of New York; "The Application of Gavage in the Treatment of Uncontrollable Vomiting in Infants" (by invitation), by Charles G. Kerley, M.D., of New York; "The Association of Congenital Wry-neck and Facial Herniatrophy," by William Osler, M.D., of Baltimore; "Tubercular Ostitis of the Hip, Originating in Colorado," by John M. Keating, M.D., of Philadelphia; "A Case of Slow Heart in an Infant Terminating in Fatal Syncope," by A. D. Blackader, M.D., of Montreal.

Friday, September 25th.—"The Etiology of Stomatitis Aphthosa," by F. Forchheimer, M.D., of Cincinnati; "Perityphlitis in the Young," by J. Henry Fruitnight, M.D., of New York; "Intussusception," by L. Emmett Holt, M.D., of New York; "A Case of Congenital Cretinism," by C. W. Townsend, M.D., of Boston; "A Further Contribution to Cirrhosis of the Liver in Childhood, with Post-mortem Notes and Microscopic Studies," by W. A. Edwards, M.D., of San Diego, Cal., and W. M. Gray, Microscopist, Army Medical Museum, Washington, D. C.

Dr. James M. Buzzell, one of the oldest physicians in Maine, died in Portland, on September 2d, aged seventy-nine. He was a son of the Rev. John Buzzell, the founder of the Free Will Baptist denomination. He attended lectures at the Bowdoin Medical College, where he was graduated in 1836. He practised for four years at Springfield, Mass., and then went to Philadelphia, where he remained a number of years. He afterward returned to Maine and became active in politics, being an ardent prohibitionist and one of the chief supporters of Neil Dow.

The American Association of Obstetricians and Gynecologists.—The following is the programme of the fourth annual meeting of this Association, to be held in the Hall of the New York Academy of Medicine, on Thursday, Friday, and Saturday, September 17, 18, and 19, 1891: "Address of Welcome and Response," by Drs. Roosa and Rohé; "Post-Partum Hemorrhage: Its Etiology and Treatment," by Dr. Aug. P. Clarke, of Cambridge; "Removal of the Kidney for Disease, with Cases," by Dr. William J. Asdale, of Pittsburg; "Another Method of Palpation of the Kidney," by Dr. Robert T. Morris, of New York; "Intra-uterine Irrigation after Labor," by Dr. Lewis S. McMurtry, of Louisville; "Is a Child Viable at Six and a Half Months?" by Dr. Llewellyn Eliot, of Washington; "Some of the Dangers Incident to Delay in Operating for Uterine Myomata," by Dr. Isaac S. Stone, of Washington; "How Should We Proceed when Abdominal Tumors are Complicated by Pregnancy?" by Dr. James F. W. Ross, of Toronto; "Thoughts Pertaining to Maternal Impressions during Gestation," by Dr. William S. Stewart, of Philadelphia; "Removal of the Uterine Appendages, with Results," by Dr. Milo B. Ward, of Topeka; "A Few Abdominal Sections Selected from my own Work," by Dr. William H. Myers, of Fort Wayne; "The Prevention of Secondary Peritoneal Adhesions by an Aristol Film," by Dr. Robert T. Morris, of New York; "The President's Annual Address," by Dr. Adam H. Wright, of Toronto; "Asepsis in Abdominal and Pelvic Surgery," by Dr. William H. Wathen, of Louisville; "A Case of Cholecystotomy and Cholelithotrity: Death from la Grippe on the Twenty-first Day," by Dr. William Wotkyns Seymour, of Troy; "Report of Cases of Cholecystotomy with Special Reference to the Treatment of Calculus Lodging in the Common Duct," by Dr. A. Vander Veer, of Albany; "Femoral and Ventral Hernia in the Female," by Dr. Henry O. Marcy, of Boston; "Some Moot Points in Ectopic Gestation," by Dr. X. O. Werder, of Pittsburg; "Ectopic Pregnancy: When Shall We Operate?" by Dr. Rufus B. Hall, of Cincinnati; "Trendelenburg's Posture in Gynecology, with Demonstrations," by Dr. Florian Krug, of New York; "Treatment of Minor Lacerations of the Perinæum," by Dr. George R. Shepherd, of Hartford; "Peritonitis," by Dr. Mordecai Price, of Philadelphia; "Peritonitis," by Dr. Edwin Ricketts, of Cincinnati; "Manual Rectification of Certain Malpositions of the Head in Labor," by Dr. William H. Wenning, of Cincinnati; "A Plea for Early Hysterectomy and Puerperal Hysterectomy," by Dr. Joseph Price, of Philadelphia; "Observations on the Surgical Management of Pelvic Abscess," by Dr. Charles A. L. Reed, of Cincinnati; "The Essential Question of Drainage in Pelvic Surgery," by Dr. Lewis S. McMurtry, of Louisville.

American Association of Andrology and Syphilology.—The following is the programme of the fifth annual meeting of this Association, to be held at the Shoreham Hotel, Washington, D. C., September 22, 23, 24, and 25, 1891.

Tuesday, September 22d.—"A Review of the Evidence of the Transmission of Syphilis to the Third Generation," by Dr. Abner Post, of Boston; "Relation of Syphilis to Stricture of the Rectum," by Dr. Robert W. Taylor, of New York; "Observations upon the Syphilitic Cachexia," by Dr. J. Blake White, of New York; "Abortive Treatment of Syphilis," by Dr. J. William White, of Philadelphia; "On the Occurrence of Nephritis in Syphilis." by Dr. John A. Fordyce, of New York; "Exhibition of New Instruments," by Dr. W. K. Otis, of New York.

Wednesday, September 23d.—"A Case of Excision of Stricture and Urethroplasty for Radical Cure," by Dr. Edward L. Keyes, of New York; "A Contribution to the Surgical Treatment of Ruptures of the Bladder," by Dr. Arthur T. Cabot, of Boston; "On the Use of Salicylic Acid in the Treatment of Certain Forms of Cystitis," by Dr. John P. Bryson, of St. Louis; "Undetected Stone," by Dr. William H. Hingston, of Montreal; "Spontaneous Fracture of Stone in the Bladder," by Dr. Francis S. Watson, of Boston; "Note upon a Possible Service to be Expected from Diuretin in Genito-Urinary Surgery," by Dr. Edward L. Keyes, of New York; "Encysted Stone, Complicated with Growths of the Bladder," by Dr. C. H. Mastin, of Mobile; "Treatment of Vesical Calculus in Male Children," by Dr. J. William White, of Philadelphia.

Thursday, September 24th.—"Further Report of a Case of Tubercular Cystitis," by Dr. L. Bolton Bangs, of New York; "Hæmaturia," by Dr. W. K. Otis, of New York; "Clinical Notes on (*a*) Hypertrophy of the Prostatic Sphincter; (*b*) Relation of Rectal Distention to Arterial Depression," by Dr. William T. Belfield, of Chicago; "Notes on the Surgery of the Prostate," by Dr. William N. Wishard, of Indianapolis; "Stricture of the Ureters," by Dr. Francis S. Watson, of Boston; "Observations upon the Surgery of the Ureter," by Dr. Arthur T. Cabot, of Boston; "Exhibition of Complete Double Ureters of Both Kidneys," by Dr. Edmund E. King, of Toronto.

Friday, September 25th.—"On the Radical Cure of Urethral Stricture by Restoration of the Mucous Membrane to a Healthy Condition," by Dr. John P. Bryson, of St. Louis; "An Obscure Case of Chronic Non Specific Urethritis of Sixteen Years' Standing," by Dr. George E. Brewer, of New York; "The Treatment of Urethral Stricture and its Resulting Conditions by Excessive Local Distention and without Cutting—Including a Brief Report of Fifty Cases," by Dr. James P. Tuttle, of New York; "New Methods for the Treatment of Urethral Disease Effected by the Use of the Speculum," by Dr. F. Tilden Brown, of New York; "Treatment of Gonorrhœa," by Dr. W. Frank Glenn, of Nashville; "The Dry Poultice in the Treatment of Epididymitis," by Dr. George E. Brewer, of New York; "Exhibition of an Antiseptic Syringe for Hypodermic Medication," by Dr. J. Blake White, of New York.

Society Reports.

THE BRITISH MEDICAL ASSOCIATION.

Fifty-ninth Annual Meeting, held at Bournemouth, July 28, 29, 30, and 31, 1891.

(From our Special Correspondent.)

SECTION ON SURGERY.

(Continued from page 221.)

SECOND DAY, THURSDAY, JULY 30TH.

Suppuration in the Nasal Cavities.—MR. WALSHAM then considered the question of the diagnosis of suppuration in the cavities connected with the nose. He thought that mucous polypus very seldom caused this. When the discharge escaped posteriorly it was probably from the sphenoidal or ethmoidal sinuses; when anteriorly, from the antrum, the frontal or anterior sphenoidal sinuses. He thought that at present we could not go further in diagnosis than this, although exploratory puncture of the antrum was justifiable and advisable and might settle the diagnosis. As to the situation in which the puncture should be made, he thought only when there was a carious tooth available should extraction and puncture through the alveolus be practised, otherwise it might be done beneath the lip, but such openings were slow to heal. There were difficulties in the way of opening it through the middle meatus. He thought the risks of puncture of the ethmoidal and sphenoidal sinuses too great to justify it, except in the case of dead bone being detected. The only case within his knowledge ended fatally. As to stenosis of the nares he thought that a distinction should be drawn between those cases in which the patient felt and complained of difficulty of breathing, and those where it was first noticed by the surgeon. Only in the former was operative interference justifiable. When deafness was alone complained of, and there was no sense of nasal obstruction, the operation was disappointing in its results. In neurotic cases temporary improvement often occurred, or the symptoms were only transferred to some other organ. Such patients sometimes became insane. He should be very glad to hear what was the experience of others in these aural and neurotic cases.

MR. LENNOX BROWNE commented on the ignorance of nose diseases shown by some surgeons, and remarking on the statistics of the Throat Hospital in Golden Square some twenty-five years ago, said that at that time adenoid growths in the pharynx were not even recognized. Of late years great advances had been made. The use of watery douches, which tended to increase the tumefaction of inflamed mucous membrane, had much diminished, and surgeons tried to employ dry insufflations or oily sprays. The development of intranasal surgery had rendered external operations comparatively rare, although the number of patients who complained of nose troubles had enormously increased.

Nasal Reflexes.—The speaker believed in the reality of nasal reflexes, and thought that Bosworth, of New York, was right in attributing these reflexes to paresis. He thought with this rhinologist that if the nose were treated early it would stop laryngeal trouble or prevent its occurrence. He mentioned a case where local treatment to the nose had relieved aphonia. He had seen cases of recurrent laryngeal growths that were due to adenoid growths of the pharynx, and had known a laryngeal polypus, which accompanied a nasal growth, dwindle and cease to cause symptoms as soon as the nose was cleared out. He believed that laryngismus stridulus in children was almost always due to adenoid growths in the naso-pharynx, and that laryngeal spasm in adults was frequently due to nasal atrophy. A case of so-called glaucoma, for which iridectomy had been recommended and done without relief, recovered when the nose was cleared. Asthma was also sometimes cured by treatment directed to the nasal cavities, but spasmodic asthma was not always due to the condition of the nose even when the nose was affected. Hay asthma could generally be cured by local application of cocaine and chromic acid, and in children sometimes by removal of adenoids. Tinnitus aurium and many other nerve symptoms could be relieved by intranasal treatment. The nose should be always carefully examined in eye disease.

Necrosial Ethmoiditis.— DR. WOAKES considered that Mr. Walsham's paper was too vague, he would, therefore, confine his remarks to a more definite subject, that of necrosial ethmoiditis. This name was first used and the condition first described by himself in a paper read before the Medical Society of London in 1885. The disease was present in most cases of recurrent polypus, and was a rarefying ostitis following on chronic inflammation of the mucous membrane and submucous tissues. Since he had read the paper referred to at the Medical Society some doubts had been cast on the reality of the condition described, and he had therefore submitted all his preparations to Dr. Martin, who reported that he found thickening of the mucous membrane causing pressure on the glands followed by their atrophy. The sinuses were pressed on and the arteries narrowed; on this there often followed absorption and necrosis of the bone. Cysts were often present, but these he looked on as pathological accidents. The fibrosis of the mucosa was the primary lesion. Dr. Woakes handed round many specimens. He said that he thought there could be no doubt as to the reality of the disease. A good light, such as that generally used for laryngoscopic purposes, was needed for diagnosis, and the head should be well thrown back, and the nostril kept open by a speculum. There were various excellent forms of speculum in use, but he preferred Thudichum's to others. It was a cause of great astonishment to him that the condition could be overlooked. The cocaine spray was a most useful preliminary to examination, and a familiar knowledge of the normal appearance of the part was needed to enable the surgeon to recognize the disease. He need only appeal to specimens shown as proof of the existence of the disease, and their pathology was in accord with clinical experience. In the early stages of fibrosis the galvano-cautery was the best application. All drugs except chromic acid were inefficient. Scraping was sometimes of use, but he preferred the cautery. In the later stages the middle spongy bone should be snipped off or removed with the snare, and chromic acid applied to the wound. Sometimes cutting forceps were needed, but any tearing away was dangerous and might produce meningitis or diffuse inflammation of the cheek. Subsequent treatment for twelve months was generally advisable. There was in some cases no alteration in the appearance of the middle spongy bone, yet on probing it would prove to be necrosed.

DR. DONALD STEWART referred to the question of diagnosis of nasal suppuration, which he distinguished from ozæna. There was not in ordinary cases the horrible fetor, evident to the bystander as well as the patient himself, that was so marked a symptom of ozæna. The so-called ozæna was often due to disease in the neighboring cavities, and not to the mucous membrane of the nose itself. These suppurative cases were a great reproach to nasal surgery. The antrum was often the source of suppuration, and could be syringed out through the middle meatus; this was perfectly practicable, and most valuable also as a means of diagnosis. The nostril having been cocainized an Eustachian catheter could be introduced, and if, on syringing, pus escaped, the diagnosis was settled. He believed it possible and practicable to enter the other cavities from the nostril for diagnostic purposes, and looked forward to the time when this would be commonly done.

DR. HILL said that rhinologists in general did not accept Dr. Woakes's statements as to the common occur-

rence of ethmoidal necrosis. He criticised the specimens (some twenty) shown, only two of which he said showed necrosis. He maintained that necrosis was a very rare condition. He did not believe that cystic or swollen middle turbinated bones were of pathological importance, and objected to their removal even when the presence of cyst was diagnosed. He thought they were better left alone. He had succeeded in reaching the frontal sinuses from the nostril.

MR. LENNOX BROWNE did not believe that necrosis was at all common. If it were, why was there no fetor as in ozæna, which was caused by dead bone?

DR. WOAKES in reply maintained the accuracy of his description, and said that the necrosis was often not the death of a large portion of bone *en masse*, but of many small portions.

THE PRESIDENT spoke of the great importance of a thorough examination of the nose, particularly in deaf-mutes. He had in a so-called deaf-mute, by detecting and removing adenoid growths, restored the hearing, and saved him from incarceration in an asylum.

Radical Treatment of Hernia.—MR. STANMORE BISHOP read a paper on the radical cure of hernia. He thought that the predisposing and exciting causes of hernia usually ascribed were not the real ones. It was not in those of weak fibre that hernia generally occurred. He believed that a chronic spasmodic cough was the most important and common cause. He described the operation that he found most effective. Dr. Odell thought the operation for radical cure was seldom curative.

MR. STANLEY BOYD had found the operation successful.

MR. WATSON CHEYNE agreed with Mr. Bishop as to the value of operation.

DR. THOMAS H. MANLEY, of New York, had operated at all ages, from five weeks to seventy-three years, with success. He believed that hernia was generally due to congenital predisposing conditions.

Spontaneous Fracture.—MR. HOOKER read notes of a case of spontaneous fracture of the femur in a young man, occurring as he crossed one leg over another to fasten his boot. No constitutional cause could be discovered, but the knee-jerks were absent, although no other evidence of ataxia was observed. He was inclined to think that the severe cold weather at the time might have something to do with it.

MR. A. BOWLBY said that he had seen a similar case in St. Bartholomew's Hospital, and some years afterward the man came under his notice with Charcot's disease.

MR. G. COLIN CAMPBELL then read a paper and showed experiments demonstrating the comparative value of absorbent dressings.

THIRD DAY, FRIDAY, JULY 31ST.

Abdominal Section for Hernia.—MR. LAWSON TAIT opened the discussion on the radical cure of hernia by median abdominal incision.

He referred to the experience of an old medical friend of his who practised in an island off the coast of Scotland far from any other surgeon, and who, he found, had the most supreme contempt for surgical anatomy. His patients were mainly fisher-folk, among whom hernia was common. Yet, although he neglected entirely the six layers described by the anatomists, he had operated in fifty cases without a death. Mr. Tait said that, as a student, so alarmed was he at the difficulties of operation as pictured by his teachers, that he had at the time determined that if ever he should be so unlucky as to have a case of strangulated hernia he would poultice it diligently until he could get some more rashly daring person to operate. He thought that the largely artificial anatomy of the parts taught in the schools was worse than useless. He believed that all the present methods of relief and radical cure were radically false, and that hernia was capable of easy relief and cure by median abdominal section. Removal of the sac was difficult and objectionable, because all opening of the sac when it could be avoided was bad, and left the patient worse off than before. He would propose never to open the sac, and would lay down three principles on which to act: 1. Relief should be afforded without enlarging the aperture. 2. The operation must be simple. 3. The tendinous opening must be closed as well as the sac. He had been led to the subject in connection with ovariotomy. In several cases, when operating on an ovarian tumor, he had seized the opportunity of treating a co-existing rupture, and had afterward operated on hernia uncomplicated by ovarian disease. The old, almost superstitious, dread of opening the peritoneum was no longer to be respected. He thought that with our present methods it was less dangerous to open the peritoneum than to leave it alone in hernia. He found that it was far easier to reduce a rupture from within by pulling than from without by pushing. The diagnosis of hernia was by no means so easy as was generally supposed. He proposed to apply his method to all cases of strangulated hernia, or wherever the radical cure was desired. He had first proposed the operation in a paper published in the *British Medical Journal*, in 1883.

As soon as the finger was within the abdomen the diagnosis was settled. If there were no hernia there was no harm done. If there were hernia it could be cured easily and safely without removing the sac. Operations for incarcerated hernia would be thus much simplified, and incomplete operations, or "reduction *en masse*," would be impossible, while, if an artificial anus were needed, it could be made at the central abdominal incision, which was the best place for it. He described his operation, in which, by the aid of a piece of silkworm gut armed with a needle at each end, he drew the pillars of the ring together, including in the operation the sac. He had hitherto only operated on women, and had had no failures. He thought that the operation would be quite feasible in the male subject, although special provisions would have to be made in inguinal cases for the spermatic cord. Mr. Tait referred to Dr. Maunsell's (of Otago) paper on this subject some year or two ago, and said that his operation was too complicated.

MR. KEITLEY had operated on two cases by median incision. He had had a case where he could not draw back the gut into the abdomen, owing to adhesions between it and the sac, and he was forced to open the sac from the groin. Had almost anyone else but Mr. Tait said that the radical cure was generally possible without operation on the sac he would not have believed him. How was the sac to be got out of the ring in order to allow closure of that orifice? In the inguinal operation it was not always necessary to open the sac; sometimes it could be pushed back into the belly, or twisted, or it could be cut off at the neck. He had given up the abdominal operation for inguinal or femoral hernia. It was a drawback that the surgeon made by his abdominal incision a second potential hernial aperture. He saw no reason to be afraid of touching the sac, and thought that Mr. Tait was superstitious in regard to it. An inexpert operator might do harm in trying to separate the sac from the spermatic cord, and he could not believe that the male canal could be safely closed and yet leave room for the cord. He hoped, however, to be converted by what he should hear to-day. Hernia cases were so diverse that it was difficult and dangerous to generalize. He thought that when special reasons existed for leaving the sac alone, Tait's operation would be valuable.

MR. JORDAN LLOYD had not performed the abdominal operation, but had seen two cases in which it was discovered that the gut could not be withdrawn. Modern herniotomy with radical cure was a most simple and successful operation. The great desideratum was to get patients to submit to operation earlier. In one hundred cases he had seen none in which Tait's operation would have been preferable. Surgical anatomy was at least of some use. He believed that the gut could not be withdrawn in many

cases without division of tendinous structures when the hernia was strangulated, and it was in those cases that the question was most important. There would, he thought, be danger in returning the sac and allowing the fluid which it often contained to reach the general peritoneal cavity. The difficulties in the operation for radical cure were due to the operator's deficiencies. All cases that could properly be dealt with by median abdominal incision alone could be treated by non-cutting means.

MR. GILBERT BARLING said that most of Mr. Tait's cases were not strangulated. These were simple and easy. He shared Mr. Jordan Lloyd's objections in strangulation cases. Tait's operation was useful in umbilical and obturator hernia. He agreed with Mr. Keetley as to the risk of producing a ventral hernia at the scar, for the predisposing causes, anatomical or otherwise, of hernia still existed in the patient. If the gut were damaged or gangrenous it could not be inspected without risk of extravasation. He thought that in femoral hernia there would be risk of wounding vessels with the needles.

MR. GREIG SMITH had come with open, and even sympathetic, mind. He objected to the division of tendinous structures which did not recover their former condition, as shown by the fact that the worst herniæ were those following operations for strangulation. The time occupied was important. Herniotomy only occupied five minutes, but who but Mr. Lawson Tait would do an abdominal section in that time. It was unsafe to work at herniæ in the dark, as must be done in operating from within.

MR. BENNETT MAY thought Mr. Lawson Tait had underrated the nature of modern herniotomy and its success. Adhesions were a great objection, and it was not so easy to divide the stricture from within as from without. The operation generally practised left nothing to be desired.

DR. MAUNSELL said that his paper referred to was published five years ago and was on supra-pubic laparotomy. He recapitulated the advantages of the method, and said that the constriction in strangulated hernia was at the neck of the sac, and not at the tendinous ring. The operation need only take three or four minutes. The entrance to the crural canal could not be closed from without, but it could be from within. He did not advocate laparotomy in inguinal hernia, but in all other forms. It was never necessary to use the knife to relieve constriction in femoral hernia. He pulled up the resisting ring with a button-hook. Mr. Tait had said that his operation of radical cure was difficult and complicated, but, as he would show by a diagram, it was essentially the same as Mr. Tait's.

DR. O'CALLAGHAN thought experience would limit this operation to umbilical hernia. He thought it impracticable in many cases of femoral and inguinal rupture.

MR. STANLEY BOYD concurred with what Mr. Greig Smith had said. He was quite satisfied with the results of radical cure operations from the groin.

MR. STANMORE BISHOP asked, whether we were to decide between the two methods was not each advisable in suitable cases? He thought that there was no more harm in having two wounds than one.

DR. THOMAS H. MANLEY said that coming from such an authority the method deserved serious consideration. It was most useful in women having abdominal tumors, but not generally applicable. It was inconceivable to him that an experienced surgeon should recommend this operation for a bad strangulated hernia with fluid in the sac and possible gangrene of the gut.

THE PRESIDENT said they were all much indebted to Mr. Lawson Tait. He would like to know how many cases of strangulated hernia he had operated on.

MR. LAWSON TAIT in reply said that he now saw by Dr. Maunsell's diagram that the two operations were practically the same. Dr. Maunsell, however, could not have published his paper five years ago, as the first operation was stated to have been in March 1887. He was astonished to hear Dr. Manley speak of operating in the linea alba, as he had for years been preaching that it should be avoided. He did not propose to substitute this operation for the inguinal one. From the nature of his practice he had not had many strangulated cases.

Fissure of the Anus.—DR. C. B. BALL then read a paper on the "Pathology of Fissured Anus." He said that true fissure was in his opinion due to the tearing down by a hard motion of one of the anal valves. He likened this to a hangnail, and said that the pile which so often existed at the end of the fissure was really the torn-down valve. Removal of the so called pile was all that was needed. He adduced the record of ten cases in support of his theory.

DR. MAUNSELL said that there was often no pile visible, yet dilatation cured it. How was this? Similarly, cases were cured by a free division backward of the sphincter. He had never known a case that division of the sphincter and dilatation would not cure.

DR. BALL said that in dilatation the tag of skin was pulled down. He thought that if Dr. Maunsell looked more carefully at his next case he would find the pile.

Hot Water in Surgery.—DR. O'CALLAGHAN then read a paper on hot water flushing applied to general surgery. He said that five years ago he had abandoned Listerism for hot water and cleanliness, and had not regretted it. It must be thorough and copious, and at the temperature of 112° F.

THE PRESIDENT warmly commended the practice of hot flushing, without which, he said, no operation was safe.

Gastro-enterostomy.—DR. C. RENTON then read a paper on a case of gastro-enterostomy for pyloric tumor. The nature of the growth, which was suspected to be malignant, was not determined, and it was left *in situ*. The patient made a good recovery in three weeks, and now, eight months afterward, was well and had gained flesh. He used Senn's decalcified bone-plates.

DR. MAUNSELL spoke of the difficulty and time occupied in inserting the supplementary sutures in such cases.

MEDICAL SECTION.

FIRST DAY, WEDNESDAY, JULY 29TH.

Etiology and Prevention of Phthisis.—DR. PYE-SMITH, the President of the Section, opened the debate on this subject. He defined phthisis as a chronic disease, always tubercular, with great capacity for healing. The microbe was present in the disease in all cases. The coincidence of the bacillus with phthisis was clearly proved. It did not follow, however, that phthisis was a contagious disease. It was about as hard for an old man to get typhoid fever as to learn a new language. Hence there must be predisposition. Otherwise, why did not all persons attending consumption hospitals, or living in hotels where many consumptives congregated, get the disease?

DR. BLAKE read a paper on cancer and phthisis occurring in the same family. In 1860 he had to attend a patient with phthisis, and in this family there were several cases of cancer. A daughter of this woman died of cancer; a son of consumption. He held that his cases showed that cancer and consumption might be transmitted from husband or wife to the healthy partner.

Cure of Phthisis.—DR. BURNEY YEO observed that it was undoubtedly true that phthisis was occasionally cured. Some patients had no clinical symptoms, and might be described as consumptives who had no phthisis. It had been said that it was very difficult to cure tuberculosis which had reached the stage of phthisis. It was of great importance to ascertain the existence of the disease in the pre-phthisical stage. He held that even if cure of certain cases could be obtained, there were many cases which were hopeless. Brouardel and others had asserted that there were many cases where tuberculosis

had affected the lungs without producing phthisis. The diagnosis of the pre-phthisical period was extremely important. Jerky inspirations, with anæmia, and early hæmoptysis were symptoms of this stage of the disease.

Dr. W. Walker had gathered that the words phthisis and consumption were considered to be synonymous. He looked on phthisis as a general tuberculous disease. Was the phthisis of stone-masons or quarrymen tubercular? He thought not, and had seen many such cases in the locality where he practised, in the neighborhood of the city of Glasgow. He thought that a discussion should take place as to the future signification of the words phthisis and pulmonary consumption.

Sir Risdon Bennett confessed that his own opinion was undecided on many of the points which had been touched upon. Admitting that in phthisis the bacillus was present in most cases, he asked whether the bacillus was equally readily found in tuberculosis of the peritoneum and brain. Was the bacillus found in children's tuberculosis? He was convinced that it was extremely important to investigate the disease in organs besides the lungs to ascertain these points.

Dr. Sansom had made an analysis of twenty cases of arrested phthisis. He thought this would not bear out the idea that the pre-tubercular stage was the only one curable. Why were children immune from phthisis pulmonalis in some cases under twelve months? Tuberculosis certainly occurred in such infants, but ordinary tubercular phthisis did not often occur in them. Phthisis was very uncommon in cardiac diseases. It was almost never seen. He had never seen phthisis with mitral regurgitation, but he had seen it in mitral stenosis. It was rare in all cardiac diseases. The probable cause of this was that there was hyperæmia in the lung, which prevented the flourishing of the tubercle bacilli. In stenosis of the pulmonary artery the patient very frequently died of phthisis. For the production of phthisis the bacillus was not the only factor. There must be a predisposing circumstance.

Dr. Moorhead said that on the Continent one-fifth of all deaths were due to phthisis. About twenty-five to thirty per cent. of cases were hereditary. He alluded to Dr. MacCormac's views as to pre-breathed air. Where the population was sparse there was but little phthisis. As to prevention, the avoidance of over-crowding was the most important point. Good animal diet was useful. The carnivora were rarely affected. He saw no reason why phthisis might not become as rare as leprosy had become in this country, for if it was so rare in country districts and in sparse populations, it was evidently highly preventable.

Dr. Morgan thought that in many cases of phthisis there must be a lower vitality brought about by sedentary work. There was a want of expansion of the lungs in many cases, which predisposed the patient to attacks of the germs which caused it.

Dr. Handford said that something in addition to the bacilli was requisite for the production of the disease. One of the conditions was low blood tension; in certain forms of heart disease there was almost complete exemption from tuberculosis. Possibly this might account for the tuberculosis of children, who had low tension of the blood. There was some connection between menorrhagia and phthisis. He thought that this disease was often followed by phthisis, because it gave rise to lower vascular tension. Vegetable feeders were predisposed to tuberculosis, whereas among the carnivora it was almost unknown; a dislike to meat diet was often met with among patients with phthisis. Meat diet raised the vascular tension. A large amount of fat, too, was probably taken by vegetarians.

Dr. C. R. Drysdale said that ever since 1865, when he had in Paris listened to the views of Dr. Villemin on the inoculability of tubercle, he had become convinced that tuberculosis was a virulent disease, and that it was most like syphilis and leprosy in its pathology. He believed that, like syphilis, phthisis was derived from parents, and that it was not merely the predisposition to the disease that was inherited, but the disease itself, which did not appear for some years in the lungs, but often came in the form of joint disease and other forms of scrofulous affections. He related a number of cases in which he believed that the disease had been derived from contagion. One was that of an elderly medical man, aged seventy, who nursed most tenderly an only daughter affected with chronic phthisis. After her death he was seized with acute tuberculosis and rapidly succumbed. He believed that many cases of "hereditary" consumption were caused by contagion between children in the same family inhabiting infected apartments.

Dr. Bristowe said that he was a convert to the bacillary theory of phthisis. And he therefore was compelled to assent to the proposition that the disease must be contagious. The specific cause of phthisis lay in the presence of the bacillus; but in addition to this factor in its production, there must be provided a proper soil for the existence of this parasite. The germs of phthisis existed in a great variety of places frequented by mankind. The chief point in prophylaxis that physicians had to look to, was the preparation of the patient to enable him to resist the invasion of the bacillus.

Dr. Thorowgood said, with regard to the origin of phthisis, that some patients had exhibited great terror, and this might sometimes account for deaths in the same family. He spoke of "pulmonary cachexia" occurring in seamen sleeping in very foul air. The importance of getting rid of inflammatory products was insisted upon. Dr. Rush used to use mercury in such cases. Hypophosphite of soda was useful in getting rid of inflammatory products. Dr. C. J. B. Williams had said that hypophosphite of soda gave the power of assimilating oxygen.

Dr. Dale has never seen any case of consumption conveyed from one person to another. As to inheritance, he had a firm belief in the predisposition from hereditary transmission. He cited the case of a family where several daughters came home affected with the disease. All the cases died. The inheritance came through the father's sisters. In a great number of cases we must have bad air also to produce the disease.

Dr. Solomon Smith said that if we believed in the experimental pathology of the disease, we must admit that phthisis was contagious. But there must be something far more than this. Tubercle fell largely under the care of surgeons, and this disease often arose from injuries to the joints. In the same way phthisis pulmonalis was often due to a damaged lung. Phthisis grows best in an injured lung. There was a certain vitality inherent in different people which protected them.

Dr. Bookhurst was not convinced of the bacillary causation of phthisis, and he was glad to find that Sir R. Bennett was doubtful as to this point. Koch's process had done far more harm than good. The speaker thought that hæmoptysis was sometimes the cause of phthisis.

Dr. Humphreys said it had been assumed that animal feeders were more subject to phthisis than vegetable feeders. He had been a vegetarian for some years. He admitted that beans were nitrogenous and that nuts were oily, yet he could speak very favorably of his vegetarian experiment.

A member said that common catarrh often led to phthisis in his experience, and that great care should be taken to see that patients were thoroughly cured of such catarrhs before they abandoned treatment and recommenced routine work.

Second Day, Thursday, July 30th.

A Discussion on Lupus was opened by Dr. I. F. Payne. The only difficulty in the causation of lupus was whether it was or was not connected with tuberculosis. He left out of consideration lupus erythematosus. The

cause of nearly all growths of chronic character was now recognized to be parasitic. In the case of syphilis, although no one had seen the microbe, yet all recognized that it was due to a micro-organism. It has been said that lupus tissues contained the bacillus of tuberculosis. The arguments in favor of this were that there were giant-cells in lupus, as there were in tuberculosis. In a great number of cases the bacillus of tuberculosis had been noticed.

Koch had repeatedly produced tuberculosis in rodents by inoculating them with lupus. This was certainly an important test. Lupus began in a slow and persistent manner, going on for years. In this it resembled tuberculosis. Lupus was very rare in infancy and in old age. In this, too, it resembled tuberculosis. As to statistics, the minority of lupus patients had had tuberculosis. It was certainly common in tubercular families, and was occasionally itself transmitted in its own form. There could be no clear line drawn between scrofuloderma and lupus. Scrofuloderma and lupus were probably produced from the same tubercle bacillus. The way in which the bacillus obtained admission was the difficulty. It was seldom that lupus began with a wound. If this were so, it must be brought by the blood. In some cases there was multiple lupus; but that was rare. Why did lupus not run the same course as tuberculosis of internal organs? The temperature of the skin was only about 80° F. Internal tubercle produced fever, which promoted the growth of the bacilli. This might account for the modification of its growth in the skin. The general treatment and the local treatment of lupus were the same as those of tuberculosis.

Dr. Pye-Smith thanked Dr. Payne for his address. With regard to inoculations, were there any proofs that such inoculations were successful when the bacillus was absent? Hebra had asserted that lupus was only met with in early life. Sometimes few or no bacilli could be seen in lupus, which was curious as compared with the numbers seen in phthisis. With regard to statistics, it must be remembered that phthisis was a very common disease, and hence, in the case of statistics of lupus, this must be borne in mind. There was a real distinction between scrofuloderma and lupus.

Dr. Colcott Fox was glad that there was a public debate on this subject. There was no doubt that giant-cells were not absolutely necessary in tubercle. Several observers had alleged that lupus was tubercular before the bacilli were known to exist. The bacilli were certainly infrequent in lupus; but, if sufficient trouble were taken, it was quite exceptional not to find them. The skin was a very bad place for the bacillus to grow. There had been a certain number of hereditary cases of lupus. A great number of cases of lupus commenced in the first ten years of life. He had seen seven cases in the first twelve months of life. These ages coincided with other tubercular diseases in children. Other tuberculous diseases were certainly often co-existent with lupus in children. He held that there could be no clear division between scrofuloderma and lupus.

Dr. Abraham said that he had examined fifteen cases of lupus, and had not found the bacillus tuberculosis, although he had always seen it in phthisis. He had seen lupus in old patients and also in very young patients. He had had 21 cases under treatment, 3 of which had been cured, and in 12 great improvement had taken place. There had been no improvement in 2 cases. Some of the patients had been scraped, and 3 had been almost cured. Salicylic acid and resorcin were used. In hyperæmic cases tuberculin was useful. He believed that lupus was a form of tuberculosis.

Dr. Moorhead thought that all agreed with Koch in his views as to the causation of lupus by irritation from the bacillus tuberculosis. He mentioned that in the case of a lady with lupus, Sir James Paget had recommended a saturated solution of caustic potash as a local application. This was followed by cicatrization. She took a wineglassful of cod-liver oil thrice daily, and was quite cured of her lupus.

Dr. Radcliffe Crocker thought that lupus was a bacillary disease. He agreed with Dr. Pye-Smith that there was a great difference between scrofuloderma and lupus. Lupus might occur at all ages from infancy to old age. With regard to treatment, he believed that Koch's tuberculin had some curative, and a good deal of palliative, effect. His plan was to get rid of a good deal of the tissues with the spoon and then to inject resorcin, and he had found this a very curative treatment.

Dr. F. Augustus Cox remarked that, with regard to the connection of lupus with tubercle, the fact that tubercle bacilli could not be found in some cases of lupus was an argument against the tubercular nature of lupus. He agreed with some of the previous speakers, that scrofuloderma was distinctly marked off from ordinary lupus, and especially by the effects of general treatment, such as by iodides, cod-liver oil, and sea-air. Internal treatment was not of much service in cases of ordinary lupus, though he had seen some benefit result from small doses of arsenic in chronic cases. Were he himself the subject of lupus, he would prefer not to employ Koch's treatment, but to rely on free scraping followed by the application of resorcin, from which he obtained excellent results.

Mr. Gilbert Barling said he had carefully examined twenty cases, and in half of them he had found bacilli and in half none. In only one case had he found tubercle bacilli in large numbers; but this was in a patient also afflicted with phthisis. In two inoculations, made one on a rabbit and the other on a guinea-pig, in the first case lupus was produced, and in the other generalized tuberculosis. He considered that the reason why tubercle bacilli attacked the face was because that part was most exposed. The vascularity of the face was so great that it favored inoculation more than other parts. He had seen lupus arise around a sinus from bone disease. In twenty to twenty-five per cent. of lupus cases some other tubercular lesion would be found. He did not accept the congenital origin of lupus or tuberculosis. He thought that milk was a cause of early tuberculosis in many cases.

Mr. Startin thought that lupus erythematosus was the pure form of lupus. He had seen some cases of hereditary transmission, and had seen some cases of lupus erythematosus caused by cold.

Mr. Clement Lucas mentioned the case of a policeman who had struck a man, and lupus spread from his knuckle over the back of the hand.

Dr. Payne, in closing the discussion, said that in scrofuloderma the disease was deeper than it was in lupus.

The Use of Drugs in the Treatment of Early Phthisis.—Dr. Thorowgood read a paper on this subject, in which he spoke with great praise of the hypophosphites. He mentioned the case of a medical man who had quite recovered his health from the administration of hypophosphite of soda. Two grains of the salt, given twice or thrice daily, were sufficient in many cases to effect a cure. In cases of pleurisy with effusion there had been no good effect. Another gentleman ate meat thrice daily and recovered. The hypophosphite of potash was too active a drug to be safely used. The hypophosphite of lime was sometimes also of great use. He had used iodide of potassium and mercury, but rarely with any advantage. One case had been completely cured by a voyage to Australia. At the Victoria Park Hospital inhalations had proved very useful. Some patients slept with creasote inhalers, and were much benefited. Severe counter-irritation was occasionally extremely useful. Croton-oil liniment was excellent. Liniment of turpentine and acetic acid was useful, used until the skin became sore.

Helenine in Tuberculosis.—Mr. Bokenham had found that the use of the crystals of the substance, given in solutions of 1 in 10,000, prevented the growth of the tubercle bacillus. He then administered helenine in the form of pills or tablets to guinea-pigs; no ill effect was produced on the animals. The animals, when inoculated by tuber-

culosis, died after about one hundred days. Control animals died in about a month or so. It was easy to render the tubercle bacillus so non-virulent that inoculation with it produced only local affections. Dr. Vincent Harris had used the drug at the Victoria Park Hospital, but he had used very small doses. He had given it in suitable doses thrice daily in some cases in his own practice, but had not had any clear results as yet.

Dr. Blake had used the tar spray in the form of creoline. He believed in the treatment of phthisis by dry air.

Dr. Thorowgood said that the hypophosphites were of great use in his experience, and he cited the opinion of a former pupil at the Victoria Park Hospital, now medical officer of the Marylebone Infirmary, as corroboration of this view. Another of his pupils had, however, expressed his want of faith in the efficacy of the drug, and some friends had suggested that he would find carbonate of soda quite as useful; but he advised such sceptics to make a careful trial of the drug, and believed that they would change their views.

Sudden Deaths in London.—Dr. Wynn Westcott read a paper on this subject in which it was shown that of one thousand deaths on which inquests were held, twenty-nine per cent. were caused by alcoholic excess.

A member said that he had not gathered from Dr. Westcott's cases whether the alcoholism which caused death had been chronic or acute. Failure of cardiac walls had in his experience been the main cause of sudden death. A gentleman, aged forty-seven, had never been drunk, but died suddenly from cardiac syncope from chronic alcoholism.

Dr. Norman Kerr pointed out the importance of the statistics cited by Dr. Wynn Westcott. He had long recognized that the chief danger to life from alcohol lay in daily moderate doses of alcoholic fluids. He would be far less afraid of the sudden death of a man who got drunk once a month, than of one who daily partook of a fair amount of alcohol without ever exceeding what he thought the bounds of moderation.

Dr. C. R. Drysdale thought that after the discussion of the etiology of tuberculosis that of the causation of death by alcohol was the most important topic which could be brought under the notice of the Medical Section. Mr. Wackley, coroner for Middlesex, had once told him that in nearly one-half of the inquests held on adults in his district, death was due to alcoholic excess.

Third Day, Friday, July 31st.

Galvanism in Intestinal Obstruction.—Dr. Semmola, of Naples, read a paper on "Intestinal Obstruction Successfully Treated by Galvanism." A patient had purulent diarrhœa, for which he was treated by purgatives. There was complete occlusion and great suffering. There was suppression of urine, which suggested to Dr. Semmola a nervous affection. Accordingly he recommended the constant current. The negative pole was applied with sponges externally. Ten-minute sittings were given every eight hours. In the twelfth application the intestinal obstruction ceased. The President summed up the case in English, and mentioned that Sir Thomas Watson had advised this treatment in intestinal obstruction.

The Effects of Alcohol.—Dr. Wilks said that it was quite impossible to divide the therapeutical from the dietetic use of alcohol. It would be easy to advise complete disuse of alcohol, and also it would be easy to say that the temperate use of wine was of importance to the race; but it would be difficult to deny that the universal use of a substance was an indication that it was suited to the race. The effect on the nervous system was the predominant effect. In excess it caused paralysis. It was not clear that there was any connection between alcohol and kidney disease. It was not clear what became of the alcohol taken into the body. Some said that it is a food of the lungs. No one had as yet seen a person live on alcohol; but it had been often remarked that people could live on very little food if alcohol were added. Persons in good health did not require alcohol. Children were better without it; but in old age and in anxiety it would be found useful. In the middle classes the beer-drinker was usually a temperate man. In some cases wine was a sedative. Many of our ancestors lived to a great age and drank a great deal of wine, and the speaker thought it was a pity to apply the term poison, as some total abstainers did, to a substance so much used by all classes. There was scarcely any nation that did not use alcohol in some form, and it would be quixotic to try to get rid of alcohol. If this were attempted it would be necessary to combat smoking and tea, etc. If a temperance hospital had existed in Todd's day it would have been of use. A large number of persons used to give brandy to all sick persons. He wished much to know what were the cases in which alcohol should be given. In one case, in a boy, doses of brandy had taken down the pulse and lowered the temperature. In many cases of fever, alcohol did not produce inebriety. An injection of wine into the rectum had apparently saved the life in a case of post-partum flooding. In wasting, or atrophy, of children he had found alcohol extremely useful. In extreme emaciation he once ordered a drachm of spirits of wine thrice daily, and the child put on flesh.

Dr. Ridge pointed out the effect of alcohol on the nervous system. The use of alcohol affected the vasomotors, and the brain received a larger supply. The higher centres were damaged, and first of all, the flow of language was greatly affected. Small quantities used daily were apt to produce dangerous effects. He showed poppy seeds and other plants (geraniums) which had been damaged by the use of small quantities of alcohol. Alcohol promoted the growth of the bacilli in a hay infusion. The reason why people took alcohol was because it was a matter of fashion to do so. Put wine into the pharmacopœia, he said, and use it only like ether or arsenic.

Sir Risdon Bennett thought a distinction must be made between the use of alcohol in health and in disease; there were many who got through their work better with than without wine. He rarely took any of the stronger wines with his meals, but made it a point to take two glasses daily of port wine. When he was abroad he took claret or champagne. Any excess of wine would not make him foolish, it would only make him stupid and silent. He could not make rules for the world at large. As a rule he agreed with Dr. Wilks, and did not think it useful to call alcohol a poison, as some did. That was not the way to win people to total abstinence.

The question was discussed at length by Drs. Bucknill, Norman Kerr, Semmola, Drysdale, and others, and then the Section adjourned.

The St. Louis Miracle.—Dr. Alt, of St. Louis, has been widely quoted as testifying to the truth of the facts put forth in regard to the alleged miracle in a convent in that city. Dr. Alt writes as follows, in the *American Journal of Ophthalmology*, concerning his connection with the case: "On April 4th last I was called by a letter of the Mother Superior to see a Sister who was said to be suffering greatly. When I saw the patient I was told that she had on that day bled profusely from the left eye without provocation. I found a red upper eyelid, as if it had been rubbed, and a slight photophobia, but nothing else. I told the Mother that I could not find anything for which my services might be of any use. According to the Sister's story, I presumed that she was afflicted with hæmophilia, as she was stated to have bled from different parts at slight provocation or without it. This is all I know of the miracle case. I saw the Sister only that once. I did not do anything for her. I had nothing to do with the subsequent alleged miracle, and could, therefore, not vouch for it, even if I believed it."

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE CONGRESS OF HYGIENE — THE VALUE OF THE WORK DONE — THE BRITISH PHARMACEUTICAL CONFERENCE — THE EASTERN FEVER HOSPITAL SCANDAL.

LONDON, August 26, 1891.

Now that the Congress of Hygiene is over, people are beginning to discuss the value of the work done. In many respects the Congress has been an undoubted success. It has brought together a large number of *savants* from different countries and enabled them to interchange ideas face to face on a variety of subjects. Personal intercourse does much to vivify interest, and in this respect the Congress has undoubtedly done good. When, however, we come to appraise the direct scientific value of the papers read and of the discussions held we come upon grounds where we meet with diverse opinions. While some consider the Congress to have been of great value to hygienic science, others stigmatize it as valueless. I cannot agree with the latter opinion, though at the same time it is not difficult to see that the contributions to the Congress were of very unequal value.

Among the subjects of interest brought forward and not noted in the Special Report already sent you, I may mention a discussion on "Vertical Writing," in Section IV. It was urged that this should be taught in schools as the sloping hand ordinarily taught tended to produce bodily deformity in the scholars, who contorted their bodies to produce the sloping hand. A resolution in favor of vertical writing was ultimately carried. In the Section of Preventive Medicine Dr. Arthur Ransome read a paper on "The Prevention of Consumption," in which he urged that the disease was both curable and preventable. Its curability was proved by (1) finding old healed phthisical lesions in the bodies of persons dying from other causes, (2) the testimony of eminent physicians, (3) the returns from consumption hospitals. Its preventability was proved by the diminished mortality from the disease which had followed the drainage and ventilation of barracks and of towns. Dr. Edward Squire and Dr. Gilbert (Havre) also read papers on the same subject. Greene Pasha read a paper on "The Influence of the Nile on Mortality in Egypt," in which he showed that in nearly all the towns of Lower Egypt the mortality rose as the river fell and became stagnant. Pure water, drainage, and ventilation were required to bring down the enormous mortality. Pure water could be provided if money were available. Dr. Van Dooremal (The Hague) read a paper on the "Prevention of Blindness Due to Occupation." In rural districts, he said, it was generally caused by an insignificant lesion followed by infection; in towns, a severe traumatism was the usual cause. Much could be done to protect work-people. Dr. Phineas S. Abraham read a paper on "The Alleged Connection of Vaccination with Leprosy," in which he expressed the opinion that vaccination was not to any extent responsible for the spread of the disease. It nevertheless behooved medical men to be extremely careful in the selection of their lymph for vaccination, and in a country where leprosy was rife it would be advisable to exercise special caution, and, if possible, avoid (as was now done in Hawaii) an indiscriminate arm-to-arm vaccination among the natives. In Section V. Professor Lehmann read a paper on "The Hygienic Importance of Copper," in which he urged that the admixture of even small quantities of copper salts with food should be guarded against. Dr. Garrett read a paper on "The Action of Water on Lead." He maintained that oxidation took place — a white, crystalline, insoluble, oxyhydrate of lead being formed. Dr. Percy Frankland discussed the "Importance of Magnesia in Drinking-Water," and Dr. Bahadwidji (Bombay) read a paper on "Air Analysis," in which he dwelt upon the injurious action of re-breathed air. A paper by Dr. Marcet, on "The Effects of the Respiration of Carbonic Acid on Man," was read. The practical conclusions drawn by Dr. Marcet were that people working in badly ventilated rooms should sleep in as pure an atmosphere as possible, so as to get rid of the carbonic acid absorbed by the blood during the day; that the effects produced by inhaling the gas depended greatly on the rapidity of the exposure; that when life was threatened by the inhalation of carbonic acid there was no reason to despair of artificial respiration so long as the heart was beating.

A somewhat amusing incident occurred on the last day in Section V., when the President of the Section (Sir Henry Roscoe) proposed to rescind the motion as to the disposal of sewage which had been proposed by himself and carried at a previous sitting of the Section; the ground for this procedure was that the motion which had been passed contravened a rule of the Congress which prohibited the taking a vote on purely scientific questions. In Section VI. a little jealousy was evinced at the closing meeting in regard to a motion which had been carried in Section IX., and a resolution was adopted expressing the opinion that the resolution which had been carried in Section IX. as to the statutory examination and registration of architects should have been referred to Section VI., and that the motion should be considered by the Congress before it was finally adopted.

During the past week the British Association for the Advancement of Science, the British Dental Association, and the British Pharmaceutical Conference have been holding their annual gatherings. Mr. Martindale presided at the British Pharmaceutical Conference and claimed that pharmacists should occupy a higher position. In the investigation of disease, he said, therapeutists and pharmacists had come between the physiologists on the one hand, and chemists and botanists on the other. Generally chemists had been in advance of physiologists, but the latter had at times, by a process of induction, indicated the direction in which chemists should work.

The Metropolitan Asylums Board is again in hot water. At a meeting held on Saturday last the report of the Local Government Board on the recent scandals at the Eastern Fever Hospital was read. The Local Government Board expressed the opinion that the interests of the hospital left them no alternative but to require the resignation of the Medical Superintendent, Dr. Collie. They found that the food had been improper, the arrangements for disinfection unsatisfactory, and that music and dancing had been kept up to a late hour in a fever ward.

OUR PARIS LETTER.

(From our Special Correspondent.)

THE TUBERCULOSIS CONGRESS — OPENING SESSION — NON-IDENTITY OF GALLINACEOUS AND HUMAN TUBERCULOSIS — DOGS AND GOATS NOT IMMUNE — LANNELONGUE'S CHLORIDE OF ZINC METHOD.

PARIS, August 15, 1891.

THE second Congress for the Study of Tuberculosis, whose sessions have recently been brought to a successful termination, is regarded here as an event of great importance, and it is hoped that beneficial results in the line of prophylaxis and therapy will flow from it. A report of the proceedings has already been sent you, but there are some points of interest that may not have received the emphasis they deserve, or even if they have, will perhaps bear repetition.

The Congress (for whose existence we have to thank Professor Verneuil and Dr. L. H. Petit, Librarian of the Faculty) was inaugurated on the 27th ult. in the grand amphitheatre of the Faculty of Medicine, under the presidency of the veteran Villemin, to whom is due the credit of having, as long ago as 1865, proved experimentally the

infectious nature and the inoculability of tuberculosis. About four hundred native and foreign physicians and veterinary surgeons assembled to listen to addresses delivered by the President, and by Professors Verneuil, Grancher, and Arloing.

One of the more important discussions of the Congress was concerning the identity or non-identity of the different forms of tuberculosis, as seen in man and the lower animals. The opinion which has been formulated was here generally accepted, namely, that the bacilli present in gallinaceous and human tuberculosis constitute specimens of two distinct races, while the bovine and human micro-organisms are identical. It has also now been demonstrated that the hitherto accepted belief in the immunity from tuberculous infection enjoyed by the dog and goat is unfounded. M. Chantemesse, in effect, cited an instance of spontaneous tuberculosis in the dog. To this observation we may add that of M. Bernheim, who related that a dog which had had the run of the hospital yard in the pre Listerian epoch (in France), and was in the habit of devouring garbage, the expectoration of phthisical patients included, died after an illness of six months' duration, of well-marked pulmonary consumption. Another example of canine tuberculosis is due to M. Beucler, a veterinary surgeon, to whose care was confided a dog, aged three and one-half years, presenting all the symptoms of phthisis pulmonalis. The animal died recently, and the necropsy revealed a "shower" of young granulations scattered over the pleura and pericardium, together with more ancient lesions (infiltration and cavities) in both lungs, bacilli being discovered microscopically. As regards the goat, M. Colin, of the Veterinary School of Alfort, having inoculated that animal in the flank with a minute fragment of cow's tubercle (pulmonary), was able to observe the gradual development at the seat of inoculation of a tubercular growth, with enlargement of the corresponding precrural lymphatic glands. Having undergone caseous degeneration, the tumor broke down, and the animal being killed, the autopsy brought to light enlargement of a chain of glands extending through the pelvic, lumbar, dorsal, prescapular (corresponding to the axillary glands in man), and mediastinal regions, the adenopathy being strictly limited to the side corresponding to the inoculatory puncture. The lung contained no less than one kilogramme of tuberculous growth. Not a trace of infection was discovered in the intestine, liver, or other organs. The hopes founded upon the assumed refractoriness of the dog and goat to the bacillus, that the serum of these animals introduced into the human system would act as an antidote to the micro-organism or the toxines excreted by it, are thus, by the demolition of the theory upon which the treatment reposed, considerably diminished. M. Beucler, moreover, pointed out that, as rabies may remain latent in the dog for many months, a further possible danger is incurred by injections of this animal's blood-serum into the human economy.

Your readers have already been made acquainted with the principle and technique of the new zinc chloride treatment of Lannelongue, but a few more details regarding it may not be superfluous. The best results are said to have been obtained in cases of non-suppurating joint tuberculosis. Taking a "white swelling" of the knee-joint in a child of from five to ten years as a typical example, the procedure is as follows: The joint having been previously placed in extension (and fixed in this position by means of a gypsum apparatus), and the patient having been anæsthetized, from four to six injections, of two drops each, of a ten per cent. solution of zinc chloride are made, *not* into the joint-cavity, but, first, at a short distance from the circumference of the fungous mass distending the superior synovial *cul de sac;* then one or two more injections on each side of the ligamentum patellæ, and one or two over each lateral tuberosity of the tibia, just beneath the articular border of the epiphysis, the needle in the latter case being directed parallel to the articular edge, but below its level. The solution should be deposited on the surface of, or even, if possible, beneath the periosteum, so that the needle must be pushed boldly on to the femur or tibia, and then, previous to pushing home the piston, be withdrawn a little. For two or three days after the operation (slight sloughing has in rare cases been observed after it), the joint is enveloped in a thick layer of cotton-wool maintained in position by a bandage firmly applied. In order to render this elastic pressure more effectual, layers of agaric are disposed beneath the wool over the principal points to be compressed. The beneficial effects of compression in these cases are, of course, familiar to the profession, the old Scott dressing having been long in use for the purpose. This compression is kept up for at least six weeks, when the patient is allowed to walk. In practising the injections, Lannelongue is convinced that he has more than once traversed the radial and posterior tibial arteries without any untoward consequences resulting. Whichever joint is operated on, the object is to deposit the solution, not under the skin in the areolar tissue, but on the surface of the bone, the ligaments, or the tendons. In treating tuberculous caries of the spine, the needle, which must be ten centimetres long, and not too flexible, is plunged into a spot directly beneath the apex of the transverse process of the vertebra affected, in a direction perpendicular to the corresponding spinous process, which is situated four and one-half or five centimetres to its inner side. The injections are repeated on both sides of each diseased vertebra, so that the sclerogenic solution is deposited on the surface of the body of the vertebra. The object aimed at is to provoke a sclerotic process, so as to limit, or isolate, as it were, the morbid process, and so prevent auto-infection. That this object is attained, so far as the sclerosis is concerned, has been demonstrated experimentally by Lannelongue. On the surface of the right femur of a guinea-pig, at the junction of the diaphysis and the epiphysis, three drops of the ten per cent. solution of zinc chloride were deposited. Fifty-three days later the autopsy revealed considerable thickening of the lower third of the shaft of the femur, with new formation of dense bone. Bony spiculæ were found projecting into the medullary canal; the periosteum was greatly thickened at certain points, being of a fibrous, almost cartilaginous, consistence. Lannelongue has often noticed this thickening of the femur in his patients as a consequence of the treatment. The tenderness of the bones is said to disappear rapidly.

The question arises, Is this latest therapeutical novelty doomed to be relegated to the limbo of things forgotten, like so many of its congeners, or is it destined to become classic? Time and further experience only will answer this question. The failure of Koch's tuberculin should render us cautious in rushing to conclusions regarding the value of any newly promulgated mode of treatment. The judgment passed on a remedy should be chronic, like the disease it is meant to cure. It is difficult to conceive how these sclerogenic injections can be beneficially utilized in cases of pulmonary tuberculosis. But, even should its applicability be limited to osseous tuberculous troubles, its scope is a large one, and should further experience confirm the hopes of its inventor, that enterprising, dapper little Southron will deserve the thanks of suffering humanity.

An Epidemic of Tinea Trichophytina Cruris.— Not long since an epidemic of ringworm of the thigh occurred among the members of the house staff and the nurses in a Philadelphia hospital. The starting-point of the epidemic was in the person of one of the members of the staff, but the spread of the disease to the nurses, other members of the staff, and some of the officials of the hospital, was difficult to explain. It was suggested that it may have occurred through the medium of the laundry, the linen of the house staff being washed in the same machines and on the same day, that of the nurses and officials in the same machines but on different days.

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STERILITY IN WOMAN—CAUSES, TREATMENT, AND ILLUSTRATIVE CASES.

BY MARY A. DIXON JONES., M.D.,

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NOTHING is more beautiful than a large family of children. No greater happiness can come to a woman; and that woman is magnificently constituted, who can be the mother of such a family and still retain her health and vigor.

Children, if rightly trained, are a never-ending source of joy and comfort. Even the sound of their breathing at night is a solace sweeter than an angel's whisper; their sleeping faces are volumes of loveliness; their first call in the morning, their exhaustless questions, their thoughts—paraphrases of the mysteries of life; their keen perceptions, their constant playfulness, their never-ceasing activity, their love, their implicit confidences, all make a mother's heart rejoice, and her unspeakable love melt into tenderness; but oh, the weary solemn silence of a home without children, the stillness, the dead depression— nothing is so indescribably sad.

Planted deep in every true woman's heart is this love for children. The sacred penman again and again tells the story: Rebecca was full of sorrow because "she was barren;" the beautiful Rachel said: "Give me children, or I die;" Sarai tells her unutterable sadness in more than human words. Abraham re-echoes her grief, and in deep woe says: "I go childless; behold to me thou hast given no seed." Alone stands that cold and dreary sentence: "Sarai was barren; she had no child." Hannah prayed day and night, was in bitterness of soul and wept sore, wept and did not eat, saying, "If thou wilt give unto thine handmaid a male child!"—and when a son was given no poetry can exceed in exquisite beauty her song of thankfulness. Elisabeth was more than rejoiced when the angel said unto Zacharias: "Fear not; thy prayer is heard, thy wife shall have a son." The withering curse pronounced upon the Kings Jereboam and Ahab was, that their households should be childless; but when the prophet wanted to bless "the good woman of Shunem" with the best of all riches, it was promised that she should "embrace a son." "She had no child, and her husband was old."

A poor dispensary patient said: "Life was nothing without children." A lady of wealth, now past sixty years of age, still grieves that she has no child on which to lavish the wealth of her love. Women want these blessings. They long for these sweet little birds of Paradise, even though they have no nest, no resting-place, nor any way to make them comfortable; women of countless wealth would exchange all for the sake of one little child of their own. I have heard the moan from the depths of the human heart. Do we wonder? Alas, alas! they lose life's greatest joy.

Causes of Sterility.— Among the recognized causes of infertility in woman are:

I. *Stenosis of the Os Uteri.*—This in many instances has been the barrier that has prevented happiness, and caused heart-aching disappointment. From a very early period stenosis has been recognized as a cause of sterility. Eminent physicians have directed their best efforts to relieve the defect, or to correct the malformation. The early Egyptians studied it. More than four thousand years ago, he who "was learned in all their wisdom," repeatedly speaks of the mouth of the womb being closed, tells how "all the wombs of the house of Abimelech were closed;" and from them was withheld the fruit of the womb. Medical writers of almost every age have referred to it, Egyptians, Greeks, and Romans. Henry von Roonhyse, in his "Medico-chirurgical Observations," quaintly describes the difficulty, saying: "Who does not recollect the touching story of the little deformed woman as reported by Dr. I. E. Taylor, at the New York Obstetrical Society. She was four feet four and one-half inches. Five years previously she had been delivered by craniotomy of a child that weighed eleven pounds. Again becoming pregnant, she determined to take whatever risks might be necessary for the sake of having a living child, facing the dangers of a Cæsarean section, even when told her chances were only fifty per cent. We equally admire her desire for children, her dauntless courage, and her more than ordinary heroism." "The neck of the womb is very narrow, hardened, and tapering out, and comes to be shut very close, and even so close that a thin stiletto will not pass into the bottom of the womb; by which infirmity the womb remains shut, the neck comes to be swollen together."

The same writer speaks of a cure by the "violence of the knife;" and in 1650, Joannis Schultetus, in his "Instrumentorium Chirurgicorium," pictures a uterotome, copied probably from some prior work, or more ancient record, for, at a very early period surgery was resorted to for relief. In modern times probably the first to popularize surgical procedures for stenosis and flexion was Sir James Y. Simpson, of Edinburgh, and by his bold, bilateral discission of the cervix, he made many cures. When stenosis is combined with anteflexion, the operation suggested by the keen intuition of Marion Sims, viz., "posterior section," will more completely meet all the indications, and is more effectual and safer.

Among the first patients who consulted me in my earliest practice were many who came to know why they did not have children. In some I found stenosis of the os, and when, as far as I could then judge, there were no complications, I used bougies, or sponge-tents to dilate. No doubt success in many instances was insured by reducing the inflammation of the cervical mucous membrane, whose somewhat swollen condition possibly obstructed the os and the already diminished calibre of the cervix. One of the most marked cases was Mrs. C——, a beautiful woman, who sought, in 1870, medical aid on account of a persistent sterility. I found stenosis of the external and internal os, the cervix was "narrow, hardened, and tapering out," and there was more or less congestion and inflammation of the endometrium. After reducing the inflammation, I used graduated sponge-tents, keeping each one in about twelve hours, and on removal, swabbed out the whole internal surface of the cervix and of the uterus with a strong carbolic acid solution. The sponge-tents did not cause the least disturbance, and in eleven months thereafter the patient gave birth to a healthy male child.

About the same period I treated another young woman by the sponge-tents, her sterility was cured, and subsequently she gave birth to several children. Soon after, a patient with similar conditions consulted me, but after my best-directed efforts by treatment and by sponge-tents, she remained sterile; the cause, I am now convinced, was a catarrhal salpingitis, sufficient at least to

prevent the efficient action of the tubal cilia. Still the use of the sponge-tents, with careful antisepsis, promoted drainage, and thereby the patient's local condition and general health were greatly improved.

In 1876 Mrs. D—— consulted me. For many reasons she wanted to bear children. Local medication, while it improved the patient, did not seem to remove the cause of sterility. I requested Professor T. G. Thomas to see the patient. He considered her condition unpromising, yet advised a continuance of the treatment for the uterine catarrh, which I did and, at intervals, used three or four sponge-tents. The patient improved and subsequently became a mother.

Thus, in many instances, I have found sponge tents have been of valuable service; the temporary pressure has stimulated the endometrium to healthy action, and has had an alterative effect upon the whole uterus;[1] but without care sponge-tents may be a source of grave danger, the fibres of the relaxing and infectious sponge may so penetrate into the yielding mucosa, so bury themselves into the tissues, as to imbed pyogenic germs, and cause serious disturbance, and even dangerous conditions.[2]

Dilatation of the cervix, whether rapid or gradual, is a much cleaner operation, more surgical, more effective, and safer, and does especial good in that it more successfully promotes drainage, and thereby has a favorable effect upon the uterus and the uterine adnexæ;[3] yet if this operation, however simple it may seem, is not done aseptically or antiseptically, it may result most disastrously;[4] while, if carefully and properly performed, it does good in many ways and helps to secure favorable results in several other operations, as in curetting, trachelorrhaphy, etc. I have dilated the cervix near three hundred times, and in no instance have I had an untoward result, or even a rise of temperature.

But I have been led to query if, after all, whether "stenosis of the os" was in itself a cause of sterility. I have seen women with a markedly small os, who have borne children, and in a few instances, the os has remained small and virgin-like after several parturitions. Still a contracted os is more easily obstructed; so dilating, or removing any impediments or obstacles, will make conditions more favorable for conception. Even an accidental plug of mucus may block the passage, as we know that simply passing the sound has in some instances removed a temporary sterility. In like manner, polypoid growths in the cervix may effectually close the canal and be a cause of infertility. One patient had been married eight years and was sterile; I removed from the cervix two small pedunculated mucoid tumors, in ten months thereafter she gave birth to a child. That stenosis is at least unfavorable for conception is proved by the fact that many women who have been sterile for years have, after dilating the cervix, borne several children in quick succession.

II. *Flexions of the Uterus.*—Anteflexion of the body or of the cervix is frequently found associated with stenosis and with an elongated cervix. For the anteflexion, posterior section with anterior incision has effected most remarkable results. It corrects in a degree the deformity, straightens the curve, renders the canal patulous, and thus in many instances the difficulty has been removed.

One of the first patients for whom I performed this operation was Mrs. W——, who consulted me in 1876 for sterility. The cervix was acutely anteflexed, and there was stenosis of both the external and internal os. I made posterior section and anterior incision, under full antiseptic precautions, put in the intra-uterine glass stem, tamponed for three days, then introduced the cup-shaped pessary. The patient recovered without a bad symptom, became pregnant a short while after, and in due time I delivered her of a well-formed, vigorous child, and there was no laceration of the cervix.

Some have thought that patients who have had stenosis were more liable to cervix lacerations. But stenosis of the os, when not the outcome of disease, or caustic treatment, is not a cause of, nor does it predispose to, lacerations of the cervix. I have demonstrated by microscopical examination that lacerations occur in those cases where a previous inflammation has transformed portions of the muscle-fibre into fibrous connective tissue, which cannot expand, and consequently, during a strong uterine contraction, breaks or tears; hence the laceration.[1]

It has also been said that a person who has had the operation of cervix incision is liable to abort. This is equally incorrect. I have never known an instance, nor do the circumstances justify the conclusion.

The next patient for whom I operated by posterior section for anteflexion was Miss R——, in 1876. Her dysmenorrhœa was so severe, and the reflex irritation to the nervous system was so great, that her friends and many of her schoolmates thought that her mind was becoming affected. In the treatment of this case I had tried sponge-tents without good results, so decided to make posterior section of the cervix. This was done under full antiseptic precautions. The patient did well, there was no hemorrhage nor rise of temperature, the dysmenorrhœa was relieved, she was less nervous, and there was a great improvement in her mental condition, so much so, her father said "she was another girl." Not a great while after, this young lady was married, and within a year she gave birth to a child.

Miss S—— had an undeveloped, retroverted uterus; the cervix was acutely anteflexed at the internal os, dysmenorrhœa was very severe, and her nervous system and mental condition were morbid. I lifted the uterus in position, and so extreme was the flexion that to straighten the canal it seemed necessary to make posterior section; after which I introduced the intra-uterine glass stem, and subsequently a pessary to hold the organ in position. The patient's sufferings were in a measure relieved and her general health, nervous, and mental conditions were greatly improved. The operation corrected not only the deformity, but stimulated the infantile uterus to healthy action. Afterward this young lady married and had a family.

In 1868 Mrs. A—— consulted me in regard to her sterility. She had stenosis of the os, anteflexion of the cervix,

[1] The first sponge-tents I used were presented to me by Dr. T. A. Emmet, as he had them prepared for his own use, and in this I was most fortunate. At that time I was studying most assiduously the surgical works and writings of Marion Sims and T. A. Emmet, also was privileged to see Dr. Emmet and other surgeons perform many operations.

[2] Dr. H. P. C. Wilson says: "I have lost one patient from the use of tents after the greatest antiseptic precautions, and have had a number ill from peritonitis and cellulitis following tents." Dr. T. G. Thomas said: "I have seen several deaths due to the use of sponge-tents. I never use them now, but employed them up to two or three years ago" (Lectures, 1889-90, p. 106).

Marion Sims said in 1887: "Pelvic cellulitis is more frequently produced by a sponge- or laminaria-tent than by anything else."

Dr. Robert Barnes, of London, says: "Numerous cases have occurred of pelvic cellulitis or peritonitis, and some of septicæmia, from the use of sponge-tents."

Dr. L. G. Harrison said in the New York Obstetrical Society, February 3, 1891: "Before the time of antisepsis the use of sponge-tents was frequently followed by a parametritis, as I have had frequent opportunity of observing. In cases in which septic peritonitis follows the employment of tents, the patient usually died" (American Journal of Obstetrics, April, 1891).

Gill Wylie said, in the MEDICAL RECORD, July 25, 1891, "he was satisfied that the use of sponge-tents was a more dangerous practice than the performance of laparotomy."

[3] Professor Gill Wylie performs it frequently and successfully. Dr. Goodell reported on one occasion that he had done it three hundred and nineteen times. Dr. Moore Madden's paper at the last International Congress favors it for obstructive dysmenorrhœa.

Dr. Charles Meigs Wilson wrote me, September 6, 1890: "My father believed in gradual dilatation of the uterus instead of rapid dilatation, or, as he sometimes used to call it, 'divulsion of the uterus.' For the cure of dysmenorrhœa, the relief of sterility, and for intra-uterine applications, I almost universally employ this method. The results have always been satisfactory, and I have never met with an accident. I have done considerably over five hundred."

Dr. Elwood Wilson has performed this operation over five thousand times without unfavorable results.

[4] Dr. T. G. Thomas said, in 1886: "Dilatation should be practised with antiseptic precautions, as minute and strict as to details as when used for laparotomy," adding "I have treated many hundreds of cases of anteflexion in this way, and many times have been alarmed by high temperature, making the threat of septicæmia, and twice have had pelvic abscesses develop."

[1] Proceedings of the New York Pathological Society, 1888.

and suffered with dysmenorrhœa. Posterior incision was made; the second day after, Professor T. G. Thomas saw the patient, he thought the operation very satisfactory, and that it would be followed by the best result. The patient made an excellent recovery without a bad symptom; yet in all the years since, even with the cumulative treatment of other physicians, she has had no children. I am now convinced that her case was complicated with salpingitis, and it was the ulterior cause of her sterility.

The next patient for whom I performed this operation was a woman of eminent social position. Incidentally I mentioned the intended operation to Professor B. F. Dawson, of New York; he said he considered the operation exceedingly dangerous; at that time he knew a woman who was dying in consequence of it, and had known of several deaths from the same cause. I could not see then, nor do I yet, any danger in the operation if it is done aseptically, and if there are no complications, as pyosalpinx, or pelvic abscess. The deaths that have occurred, I believe, have resulted from sepsis, hemorrhage, or co-existing disease of the uterine adnexæ.[1] The operation was performed for this patient, she had no untoward symptoms, her general health was very much improved, but she remained sterile.

Why in these two cases was the sterility not removed? Each operation was carefully performed, attention given to every detail, and we had reason to expect the best results. If the flexion and the stenosis were the cause of the sterility, after these were corrected why should the sterility have continued? No doubt in each case there were other and co-existing causes.

Early in 1886, I was consulted by a young woman, Miss T——, who had stenosis and anteflexion, with dysmenorrhœa, so that her general health and nervous system were greatly affected. The uterus, thus doubled upon itself, was retroverted. I performed posterior section for correcting the deformity and straightening the canal, and then restored the uterus to position. After the operation Professor Gill Wylie saw the patient, and he thought the best results would be secured; and so it proved, not only by improving the position and condition of the uterus, but principally by favoring the health of the uterine appendages; for, as I have elsewhere stated, anteflexion of the uterus tends to develop disease of the uterine adnexæ.

The last time I performed posterior section of the cervix, was in 1887. This patient had a similar deformity; and the anteflexion had probably caused the oöphoritis, from which followed the enlargement of the ovaries, and their consequent dislocation. Posterior section gave free drainage, and thus prevented the already diseased and dislocated ovaries from becoming more and more affected, and gave them a chance to regain a degree of health.

In every instance that I have performed posterior section of the cervix, the patient has been benefited.' Still I believe, in most cases, dilatation of the cervix will answer the purpose and meet the indications more fully. The drainage promotes the health of the uterus, the adnexæ, and indirectly of the whole system, at the same time tends to relieve an existing sterility.

However, I began now to doubt whether anteflexion of the cervix should be classed among the causes of sterility, especially as I had observed patients who had anteflexion of the cervix, in some instances very acute, together with stenosis of the os, and yet these patients became pregnant without delay or apparent difficulty. A young married woman who, on account of an exaggeration of both of these conditions, I thought doomed to sterility, in ten months after marriage gave birth to a child, and has had one every eighteen months since, and even now, after five parturitions, there is still an anteflexion of the uterus.

Four summers ago an unmarried girl, scarce eighteen years of age, called at my office to know her condition. She had extreme stenosis and acute anteflexion of the cervix, and was two months pregnant. The scientifically branded uterus had promptly and successfully done its full duty, even against the owner's wishes, and to her great dismay. The spermatozoids can climb through devious crevices, successfully make their way, and do their work under most unpropitious circumstances.

A short time after seeing the above patient, a young married woman, Mrs. B——, consulted me for sterility. I found flexion of the uterus, stenosis of the os, and there also existed some oöphoritis, catarrhal salpingitis, and a slight displacement of the uterus and of the uterine appendages. I made no section of the cervix, used no sponge-tents, no dilatation, nor divulsion; but, in addition to constitutional treatment, I applied tampons of boro-glyceride and alum. There was great improvement in her general health, the anteflexion was corrected, the congestion and inflammation of the uterus were relieved, the neighboring engorged blood-vessels were depleted and stimulated to renewed vigor, and the patient's general health was improved. Soon after she became pregnant, and she has since had three children. Recently a patient came to me from the north of the State. She had been married some years and had no children. The pain at menstrual and intermenstrual periods was so great that she said she often wished herself dead, and considered how she might destroy herself. I gave constitutional and local treatment, dilated the cervix, used tampons, etc. She was very much improved, and a few days before her visit home, I dilated the cervix a second time, swabbed the whole internal surface of the uterus with pure carbolic acid, remarking to the patient that there might be a possibility of conception. During her stay at home she said that she had not felt so well for years, nor had she had so good an appetite. Some weeks after she returned for a continuation of treatment, and was found to be pregnant. In this case dilatation was as effective as either sponge-tents or posterior section would have been.

Dr. T. G. Thomas says: "An anteflexion is always a matter of grave significance," and in his interesting paper before the American Gynecological Society he further stated: "The wearing of heavy skirts forces the abdominal viscera down upon the growing uterus, and corporal

[1] Marion Sims performed this operation several hundred times, and lost but two cases, one on account of pre-existing abscess, the other from hemorrhage. He says further: "I consider the sponge- and laminaria-tents more dangerous than the operation." T. A. Emmet says: "It is unquestionably a dangerous operation. I have had to my sorrow pelvic cellulitis with abscesses frequently occur, and death in one instance after the most careful preparatory treatment." Dr. Emmet said on another occasion: "The operative procedure of dividing the cervix with flexure of the body of the uterus is not free from danger, for I have known at least twenty deaths that have occurred in my own practice."

Fordyce Barker says: "Sir James Y. Simpson, who had performed the operation of bilateral section many hundred times, had in one year two deaths from hemorrhage." Dr. Barker adds: "I have several times been called to see patients who, after the operation (cervix incision), were in a very dangerous condition, either from pelvic peritonitis or cellulitis. One who died had not only an accumulation of pus behind the cervix in the recto-vaginal septum, but general pyæmia."

Thomas says, in his large work, page 431: "Should this apparently trifling operation be performed during the existence of periuterine cellulitis or peritonitis the gravest results may follow, and the sufferings of the patient be greatly aggravated. Indeed, had all the fatal cases which have occurred in consequence of this operation been published to the profession, as they should have been, the list would, I think, be a startling one. I, myself, know of five, and have heard of numerous others. My conviction is that the operation, *per se*, is not attended by great danger. It is the performance of it when pelvic peritonitis exists in chronic form that has caused it to produce such bad results."

Dr. White says: "I have used Sir James Y. Simpson's instruments frequently; I did not always cure my patients, I did sometimes kill them."

Dr. Wilson says: "I have operated seventy-five or eighty times. Pelvic cellulitis in one case, and one case of peritonitis which proved fatal."

Dr. Goodell says: "I have had a melancholy result in one instance, the patient died nine days after with pyæmia."

Dr. Howard, of Baltimore, says: "Pelvic cellulitis and peritonitis will follow a certain number of cases, do what you will."

Peaslee says: "Both Sims's and Simpson's methods are dangerous from profuse hemorrhage, pelvic cellulitis, or septic peritonitis, and having a decided tendency to abortion."

[1] Dr. H. P. C. Wilson said before the American Gynecological Society: "I am convinced, after an experience in four hundred cases of posterior section that nothing which I can do can bring so much relief to the patient as this operation" (Gynecological Transactions, 1887).

flexion results. If the rectum is constantly distended by masses of fecal matter, the neck is sharply pushed forward, and cervical flexion results."

These are golden words. No organ will act as well when laced and misplaced by corsets. We cannot begin to realize the vast injury which corsets do women. As I said in an article published in *Health and Home*, April, 1871: "Tight lacing is doing more to undermine the health of American women than any other one thing." The only wonder is that it does not more seriously interfere with the functions of the genital organs and put them more out of position. We marvel that women can as well stand it. During the late war many of the Zouaves had hernia, simply from wearing tight belts around their waists.

Anteflexion of the cervix, however, in many instances, dates from the beginning of existence, or commences in feebleness of early life. Many who have anteflexed, undeveloped uteri, show the same lack of development in other respects, and frequently have not the vital power to carry on vigorously the ordinary function of sustaining life, much less the added function of maternity. Still we find instances of anteflexion of the uterus accompanying a magnificent physique, as if the latter was developed at the expense of a stunted uterus and a feeble genital organization.

Some gynecologists, in order to avoid the difficulties of a small os, or flexion, or to get clear of both, amputate the cervix. As one writer remarks: "In many cases posterior section is not sufficient; for these, there is but one resource, viz., amputation of the neck." Dr. Isaac E. Taylor said: "It is certainly to be preferred to the ordinary incision; a greater percentage of pregnancies occur after amputation of the cervix than after the operation of posterior incision." Another physician, equally eminent, says: "I have amputated the cervix a number of times, but conception has not followed in one case."[1]

Lateral flexion has by many been considered a cause of sterility. This form of flexion is undoubtedly produced by some pelvic inflammation, and the indications are to treat the pelvic trouble. If there is no peritoneal inflammation, then probably dilatation may be of some service.

Retroflexion is a more serious cause of sterility; yet even with retroflexion conception is not impossible, especially in uncomplicated cases. The uterus may be lifted and held in position by a pessary, or, more completely to overcome the difficulty, the round ligament can be shortened, or ventral fixation performed.[2]

But when there are adhesions and the retroflexed uterus is bound together, and bound to the floor of the pelvis by these adhesions, retroflexion becomes one of the most formidable and incurable causes of infertility; for the adhesions, or pseudo-membranes, are produced by repeated attacks of peritoneal inflammation, which inflammation has doubtless originated from purulent salpingitis of the tubes, a disease which, probably in every case, has destroyed their physiological functions, and thereby rendered conception impossible.

Some recommend massage for stretching the adhesions and replacing the uterus, but if the adhesions are entirely removed, and the uterus in normal position, the salpingitis will of itself be a cause of sterility, and will continue to produce repeated attacks of peritonitis, and consequent reproduction of adhesions and pseudo-membranes. Massage cannot remedy the evil, and might under some circumstances be attended with grave danger, or possibly with fatal results. In 1888, Mrs. O—— called to consult me. She had acute retroflexion of the uterus, and the uterus thus flexed was retroverted and bound together by adhesions, and by similar adhesions, or strong pseudo-membranes, it was adherent to the floor of the pelvis, while on the right was a fluctuating mass extremely sore and sensitive. I considered her condition dangerous, and advised laparotomy without delay. It was performed soon after. As previously diagnosed, the flexed uterus and uterine appendages were found in a mass of dense, well-organized pseudo-membranes. These were separated, the diseased mass from each side was removed, and the uterus was lifted and stitched to the abdominal wall. The patient made an excellent recovery and is now in good health.[1]

The abscess on the right extended into the adjoining aponeurosis and was closely connected with the psoas and iliac muscles, many fibres of which were found in the specimen removed. The anterior wall of the abscess was formed partly by the remains of the tube and the ovary. So great was the destruction from the abscess that the right Fallopian tube was almost gone, only a trace of the calibre could be seen, lined by shallow folds of mucosa on the surface of which were a few vestiges of columnar ciliated epithelia.

This well illustrates the complications which may accompany a retroflexed uterus, bound with pseudo-membranes, and how the anatomical structure and the physiological functions of the uterine adnexæ are in such cases more or less destroyed.

III. *Undeveloped Uteri.*—This is frequently found associated with anteflexion. Either the flexion or the lack of development may interfere with the normal functions of the uterus, and both conditions may exist in women of an otherwise splendid physical organization.

As some women do not mature until they are eighteen, instead of twelve or thirteen, years of age, naturally the same difference may be observed in the development of the genital organs; and for the time being this undeveloped or inactive condition may be a cause of sterility. In most instances it is only necessary for these organs to be invigorated,[2] the complicating disease removed, and the general system strengthened. Treated in this way, I have seen women with undeveloped uteri in time become mothers of large families of children. In 1865 a young married woman consulted me for sterility; the uterus was much below the normal size, anteflexed, and accompanied by scant menstruation. I treated her locally and constitutionally; subsequently she had a number of children.

Along with an undeveloped uterus there may be a lack of development of the ovaries or tubes, such as would be a malformation; yet these organs, even with this disadvantage, may, if healthy, perform their functions. Mrs. S—— had given birth to several children; subsequently, on account of disease, the Fallopian tubes had to be removed, and there was discovered a very anomalous condition: both were undeveloped, and bifurcated up to their union with the uterus.

IV. *Physical Overwork.*—Exhausting labor in men or women may interfere with the efficient action of any organ, as the stomach, lungs, brain, etc.; so when the system of a woman is exhausted with undue manual labor, the nervous power and vital resources used up, there may not be sufficient strength for perfecting the genital organization or for the performance of its duties. Our bodies may be made such machines of toil that not only the higher, but the procreative, powers may show a lack of activity and vigor. I have known strong sturdy women to go through such prolonged labors, such continued herculean tasks, that they had not the capability or finesse to perform the function of maternity; or sufficient *human* in them to want children. Such women are "martyrs to labor."

A German woman who visited the dispensary said

[1] Gynecological Transactions, 1876.

[2] Professor Mundé says "that in some cases when he has shortened the round ligament, pregnancy has followed." He states that he "did ventral fixation for a case of prolapsus, and the patient died, apparently from intestinal obstruction." He adds: "The result in this case took away some of my ardor for the operation; for a woman with prolapsus of the uterus should not be killed by an operation intended for its relief" (American Journal of Obstetrics, July, 1890).

[1] The abdominal fixation soon gave way.

[2] Electricity may be of service.

"that from her sixth year, she plowed, hoed, cut hay, gathered into the barns," etc. In moderation these labors might have made her strong and vigorous; they were no more severe or exhausting than much of household work, but continued eighteen hours each day, without sufficient rest or sleep, the life was taken out of the woman, and at forty years of age, after a marriage of over twenty-five years, she had no children, and still had an undeveloped uterus, already in a state of cancerous degeneration. Another dispensary patient, a strong Irish woman, with a powerful physique, almost a giant body; yet she had been such a machine of toil, that she had almost lost the fineness of womanly nature, had never been able to bear children, and her insignificant uterus was still small, infantile.

If persons who are extremely overworked and exhausted do have children, the latter frequently show a lack of power, mental and physical. Farmers, both husband and wife, naturally vigorous and strong, have been so taxed, their vital resources so drained, that there was no vitality left to give vigor to their progeny; and, in more than one instance, I have seen whole families of such children die off before their parents. Also, during pregnancy the vitality and nerve-powers may be so exhausted that there is not sufficient left for the development of the child; on the contrary, feeble women, if there is no constitutional taint, may, while pregnant, so rest and conserve their life forces and strength, that they give birth to comparatively healthy and vigorous children.

V. *Mental Exertion.*—This is given by some as a cause for sterility. How can the evil be remedied?

Dr. H. F. Campbell, in his paper before the American Gynecological Society, 1888, said: "Our female colleges and seminaries are undoubtedly successful in producing women of the highest intellectual type, but may not this modern system of education have perverted their destiny, and lessened their chances of maternity?"

Are we then to conclude that developing and improving one part of the body necessarily dwarfs another, or weakens its power and functions? Does the welfare of one organ detract from the capability of another? Does vigorous exercise to expand the lungs, weaken and injure other portions of the body? On the contrary, does not making any one part stronger, healthier, and better, improve the rest and add to the efficiency of the whole? If the roots of a tree are vigorous, will not the branches spread and the leaves bloom more beautifully? In like manner, does not making the lungs stronger, the stomach healthier, or the liver better, improve the whole human body? And will not developing the brain and nervous system give a healthier stimulus, and a better nerve-supply, to all other parts and organs?

Dr. Campbell continues: "The most unfortunate requirement of female education is the time at which it is most actively conducted, namely, from eleven to sixteen years of age, which is the period of sexual development, and of perfecting the organs of reproduction. When the years of sexual development are passed in bodily activity and without mental strain, the reproductive organs are naturally and promptly developed, their functions normally performed, gestation prosperous, parturition easy, and offspring numerous. May we not legitimately conclude that conditions so entirely opposite and adverse as these, in which the adolescent female of the better class must pass the period naturally allotted to sexual development, be considered a potent factor in the arrest of ovarian and uterine development, by diverting the vital forces from the sexual organs at the very time their exercise is most needed. The infantile uterus and atrophic sterility will be found, I think, most frequently among women who have been subjected to severe laborious and intellectual labor during the period of pubescence, than in those of any other class. The prize girl will often fulfil the destiny of a childless woman."[1]

If it can be shown that sterility and undeveloped uteri are found proportionately more frequently among educated women, among those who have gone through a collegiate course of study, "those who have been subjected to severe intellectual labor during the period of pubescence," than among women who have had no intellectual training, and who have passed the period of the development of the sexual organs in bodily activity and without mental strain, then, with some show of reason, we might seriously inquire if "severe and laborious intellectual labor," during the early periods of life, is not a "potent factor in the arrest of ovarian and uterine development;" whether it does cause "undeveloped uteri" and "atrophic sterility;" and if intellectual labor does "lessen the chances of maternity," and to that extent "pervert the destinies of women."

But is this the case? Are "undeveloped uteri" and "atrophic sterility" more frequently found among educated women than among those who have no mental training? And does mental training in girls between the ages of eleven and sixteen tend to prevent the development of the genital organs, and interfere with their functional activity?

In answer to a portion of the question, may we not refer a moment to the long array of names of brilliantly educated women who have had large families of children?

I was for years a student in the largest and most advanced college for women in this country. The students pursued a collegiate course of study embracing the higher branches of mathematics, the natural sciences, intellectual and moral philosophy, English literature, belles-lettres, etc. Many of the young ladies, besides, have heavy tasks daily in the classical and modern languages. Afterward, as a teacher I was in the college four years, and later two years in another college equally distinguished and equally advanced; and for a number of years I was principal of a young ladies seminary of a high grade, which demanded about the same course of study. During this period of thirteen or fourteen years, over three thousand young ladies came under my observation, who during the period allotted to sexual development were subjected to continuous "severe and laborious intellectual labor;" yet in all this number, and in all these years, I do not recollect a single one giving any indication that "the reproductive organs were not naturally and promptly developed, and that their functions were not normally performed." The young ladies were under my observation at all hours of the day, yet in all these years, among so many young women, I do not remember one who apparently had any difficulty with the function of menstruation, or suffered so that her studies were in the least interrupted, or that it was necessary to lie in bed, except perhaps in one instance; and this young lady did so at the periods on a few occasions, because she wanted, as I imagined, a chance to read Browning's poems, or write imitations of the same.[1]

I would have been apt to have noted any sickness, for I was then reading medicine; and besides, during all these years physiology was one of the branches that I was studying or teaching.

The young ladies who were subjected to these severe intellectual tasks grew healthier and stronger. They had their regular hours for recreation and sleep; still severe intellectual labor was demanded, equally heavy, as long continued, and for as many years as young gentlemen have at college; yet the young women were not made sterile thereby, nor invalids, nor did they lack in any way perfect development. Most of them afterward married and had large families of children.

I have known the "first honor girl" for many successive years, girls who gave themselves up to the closest and most "laborious intellectual labor," and who, for their greater mental discipline and profounder intellectual attainments, stood first. They were emphatically "women of the highest intellectual type," yet I do not know of

[1] Gynecological Transactions, 1888, pp. 442–444.

[1] This young lady graduated at the college, afterward married, and had a number of children.

any one of them who fulfilled the destiny of a "childless woman." I recollect one, with her pretty, blushing face; she married; children came in quick succession, till her table was surrounded by young and happy faces. Another "first-honor girl," always accustomed to outstripping the members of her class, when married and settled in a large city, was equally successful in outstripping her neighbors in the number of her children.

A "first-honor girl" of another school, a student, a writer, and a public speaker, yet is blessed with more than the usual number of children, and has strength to look after these children and after her household affairs, besides doing much outside work in blessing humanity. "She girdeth her loins with strength, and openeth her mouth in wisdom."

A fourth "first-honor girl," who pursued an extensive course of study, especially severe intellectual labors, was a superior mathematician, a student of five languages; this woman, at the birth of her third child, had been all day actively engaged in some intellectual pursuit, returned at nine in the evening from a walk, and before eleven o'clock all was over. She had no trouble, then, before, or after. "Gestation was prosperous and parturition easy." So of many of these three thousand and more women who were subjected to the modern system of female education. They suffered in no way from lack of development and their functions were normally performed.

In the twenty-five years I have practised medicine I have not seen a case of undeveloped or infantile uterus in a woman with a college training, or who had passed through a regular course of study, except in one instance, and this young woman, before she commenced her college course, had an anteflexed, undeveloped uterus. It was so stamped from her birth, and was by no means a consequence of much study.

On the contrary, I have seen women who have passed their younger years in bodily activity, with no college education, and a plentiful lack of mental culture, "whose reproductive organs were not naturally developed, nor functions normally performed;" who had "undeveloped, anteflexed uteri, and atrophic sterility." I have seen proportionately more cases of sterility and imperfect development in my dispensary clinics than I have found in my private practice. Many women who come to the clinics are without education, not able even to write their names, yet they have undeveloped, anteflexed uteri, which are incapable of performing their normal functions.[1]

Recently an apparently healthy, vigorous woman came to the clinic, inquiring the cause of her infertility; married nine years, and no children. Her mind had never been disciplined by intellectual labor, yet she had an infantile uterus, lying useless on the floor of the pelvis, and toppled by its side were the tubes and ovaries, equally inefficient and equally incapable of performing their functions. Many uneducated girls call at the dispensary suffering from amenorrhœa; thus in early womanhood menstruation is almost *nil;* as one said: "It lasts scarce a day, and one napkin is sufficient for the period." Others come complaining of the most distressing pains in the performance of this function, some giving evidence of arrested ovarian and uterine development, and a large number complaining of sterility produced by almost as many causes. Others again tell of suffering during gestation, and show most serious injuries as a result of "parturitions that were not easy."

Thus in many of these women, who have not been to female seminaries and colleges, or injured by the modern system of education, we "find the reproductive organs not naturally developed, the functions not normally performed, gestation not prosperous, parturition not easy, and offspring not numerous."

[1] I have been especially interested in glancing over the books of my Dispensary Clinics in 1883–84–85, to see how many cases of anteflexion and undeveloped uteri are noted and pictured as found in those poor uneducated women, who had "bodily activity and no mental strain."

One young woman who had not been afflicted with any kind of mental training, yet did not have as much as an undeveloped uterus. There was no uterus, there were no ovaries, no Fallopian tubes, no vagina, and no menstruation.[1]

I maintain, therefore, that lack of mental discipline or training does not insure or favor more perfect development of the genital apparatus, or more capability in performing its functions; nor does collegiate training or systematic intellectual labor during the period of pubescence, or at any other period, if pursued under proper hygienic conditions, interfere with the development of the genital organs, their power or functions, or lessen the chances of maternity. On the contrary, mental culture and scholastic training tend to a fuller and more perfect development of the whole body, tend to make grander women, mentally and physically, women who are more capable of bearing healthy, vigorous children, and certainly more capable of training them properly.

Mothers who have large families of children, have them, not because of lack of culture and scholastic training during the period of pubescence, but because they have good and well constituted bodies. It is a glorious thing to be well born. Besides, such women generally have full use of all the powers of the body, the organs are not cramped or bound in, nor their normal activity prevented by the cruel trammelling of corsets.

Of course we admit that excessive brain-work, overstudy, and unhealthy habits, are harmful to every vital function, and will make either boys or girls, men or women, sick.[2]

There is another fact which it is well to consider: Children without mental cultivation, with minds barren of thought, are sometimes apt to have premature sexual excitement and perverted development of these special organs, frequently resulting in weakness and exhaustion of both body and mind.

Again, every gynecologist will bear witness that diseased uterine appendages are found less frequently among educated women in the higher walks of life. To find a large practice in this department one must get their patients principally from the dispensaries or from the uneducated classes.

Diseases such as endothelioma and gyroma, in which the normal structure of the ovaries is more or less destroyed, would seem more likely to occur when the vital forces were used up in other directions. Yet out of twenty or thirty cases of these diseases I have not found a single instance in one who, in younger years, had severe intellectual labor or scholastic training.

If study prevents development, by diverting the vital forces from the sexual organs at the very time when their exercise is most needed, will not the same principle apply to boys pursuing a college course? Where is the difference? "Male and female created He them." Woman is subject to the same laws of growth and health as man, and, like him, she is capable of high mental cultivation, and may at the same time retain the full power of her procreated organs.

Dr. H. F. Campbell instances the savage, half-civilized Indian and negro women of Southern plantations. There are many Indian women who are sterile, who have anteflexion, and who suffer from consequent infirmities, and who die young on account of complications. Women's physical Paradise is not among the savage or semi-civilized Indians.

As to the negro women on Southern plantations, I was born south of Mason and Dixon's line, and I know that many of the colored women are sterile, many do not

[1] Professor B. F. Dawson saw this case with me, and had we not been convinced of the absence of all of these organs, we would have considered the question of making an artificial vagina.

[2] In the past I have written and lectured on health subjects, and one of the most urgent demands I have made to mothers was against school taxation in early childhood. The brain at this tender age cannot stand high pressure and stimulation. Children who have no special tasks until they are seven to eight or nine years of age, very soon surpass the early prodigies.

have prosperous gestation or easy parturition, nor numerous offspring. It was among these women that Marion Sims was led to study the remedy for vesico-vaginal fistula, proving that parturitions among them were not always "easy" or "prosperous."

Properly educating and training the mind does not render any other organ less capable of performing its normal functions. To insure the highest degree of development both bodily activity and mental culture are essential.

VI. *Misplacement of the Uterus.*—This has in unnumbered instances been a cause of sterility. In many I have placed a Hodges pessary to correct retroversion, and women who had previously been sterile for years conceived.

More than a dozen years ago a young woman consulted me, suffering locally and in general health, but most grieved that she could not bear children. Her only child, born nine years previously, had died in infancy. I found a deep transverse laceration of the cervix, retroversion of the uterus, and a torn perineum. I replaced the uterus preparatory to repairing the injuries, but before I had an opportunity for so doing the woman became pregnant. In another one, who had extreme prolapsus of the uterus, and for years an acquired sterility, likewise, upon replacing the uterus preparatory for certain plastic operations, pregnancy supervened. I believe the little sagging, or a slight dislocation, of the uterus has, in thousands of women, been the cause of prolonged sterility. Still a misplacement is not always accompanied by infertility. In 1876 a young married woman, Mrs. D——, consulted me. She was then three months pregnant, and the uterus completely retroverted. From her clinical history there was no doubt the retroversion existed before marriage. I replaced the organ, put in a pessary, and she went to full term.

About the same time I had two other patients with similar conditions, both of whom were in the fourth month of pregnancy, and both had extreme retroversion of the uterus. Fearing that, in replacing the uterus, there might be some untoward accident, I requested Dr. Z. Emery to be present, and he was in each instance. Both patients did well and went on to full term.

In 1890, Mrs. M——, then in the fourth month of her ninth pregnancy, consulted me. She had complete retroversion of the uterus, and a deep transverse laceration of the cervix. I replaced the organ, put in a "Thomas Cutter,"[1] and five months after delivered her of a healthy male child.[2] No doubt the conception occurred while the uterus was in malposition. The long-existing laceration had prevented involution, and produced increased hyperplasia of the uterus, which caused the persistent misplacement.

A yet more extreme case, Mrs. C——, came from a neighboring town; said that she supposed herself five months pregnant, but was in no way increased in size. The enlarged uterus was retroverted, and impacted in the pelvis. I informed the patient that it must be lifted into position, but in doing which the life of the child would necessarily be imperilled; that I would not attempt to replace the organ in my office, but the next day would visit her in her home. This I did.[3] The uterus at first seemed firmly fixed and impacted, but by careful manipulation it was moved and gradually restored to position, and pregnancy went on to term. No doubt conception occurred while the uterus was displaced.

VII. *Lacerated Cervix.*—This may be a cause of sterility, first, from the resulting inflammation and change of the cervical and uterine mucous membrane; second, from a weakened, relaxed, and hypertrophied state of the whole organ. By repairing the laceration the uterus is made healthier, and thereby sterility may be cured.[1]

Mrs. —— consulted me in 1885, being a sufferer locally and in general health, and had an acquired sterility of some eight or ten years' duration. There was an extreme bilateral laceration of the cervix, lips everted, and the mucous membrane covered with small erosions, some portions of which were in a state of deep ulceration, bleeding at the slightest touch. I repaired the laceration.[2] The patient made an excellent recovery, and after the operation the uterus presented an entirely normal appearance. The patient's health was very greatly improved, and soon after, in quick succession, gave birth to three children. Thus repairing a lacerated cervix, when there is no pelvic trouble, improves the general health, prevents untoward results, and in unnumbered instances has removed an acquired sterility.

A writer in the *American Journal of Obstetrics* in January, 1883, says: "I have endeavored to collect all the cases where, after this operation, conception took place; fancy my astonishment to find throughout all the literature of the Surgeon-General's office, touching this particular point, eleven cases only recorded."

I think if the doctor will examine every-day life and practice, he will find unnumbered instances of conception following trachelorrhaphy, and due to the good results of the operation. When it is properly performed the uterus becomes more healthy, and consequently more capable of performing its functions. In 1882 I restored for a patient, in the Woman's Hospital and Dispensary, a deep transverse laceration of the cervix; subsequently she had a number of children. Mrs. R—— was a patient in the same hospital, had a similar laceration, and was sick and suffering in her general condition. If the injury had not been repaired she would have continued to be sick, having constantly more or less distress, and would have remained sterile. The operation was advised, not however on account of sterility, but because of her local suffering and enfeebled health. She made an excellent recovery, and afterward had five children. Mrs. McM——, in the same hospital, had also a deep transverse laceration of the cervix, which was restored with equally good results.[3] A few weeks after, when I repaired the perineum of this same patient, Dr. J. H. H. Burge, Dr. F. W. Rockwell, and Dr. Colton were present, and had an opportunity of seeing the already restored lacerated cervix; as one of them remarked, "the result was perfect." After the operation the patient's health was very much improved, and subsequently she had several children.

In 1883 Mrs. D——, from a neighboring city, consulted me for sterility and pain. Thirteen years previously she had had a child, at which time occurred a deep transverse laceration of the cervix. I repaired this injury,[4] and the patient has subsequently given birth to five children. Many such instances I could narrate. One of the most interesting of the kind was a friend of the last-named patient. Her only child, born five years previously, had died in infancy. I found an extreme laceration of the

[1] This pessary is especially serviceable when there is no perineum.

[2] Two months after I repaired for this patient the cervix and perineum. Dr. Annie Brown and Dr. Harriet Pilsbury were present; one administered the ether and the other held the speculum. Dr. C. N. D. Jones assisted in the operation.

[3] I had clearly in my mind the case mentioned by Montgomery, where a woman had died in this condition, and after death the pregnant uterus was found so wedged in that the pelvic bones had to be sawn asunder before it could be lifted.

[1] Dr. Joseph Price, in his timely and able article published in the Buffalo Medical and Surgical Journal of November, 1890, shows how major pelvic troubles are often traceable to minor gynecological operations. Any minor operation of the cervix, if not done aseptically, may result in serious pelvic trouble. When the operation of restoring a lacerated cervix is performed a patient should recover in eight or ten days, and she will if there is no sepsis. If she does not, and if, as in some instances, she is sick for weeks in consequence of the operation, mischief is done, or in the emphatic words of Dr. Price, "the person is made distinctly worse by operative interference." I have in delicate women cut from the cervix large portions of diseased tissue, brought together the great flaps, and in a week the wound was entirely healed and the patient comfortable. Dr. Price wisely reminds us that when there is pre-existing disease of the pelvis no cervical operation should be attempted.

[2] Dr. C. N. D. Jones assisted. Dr. Samuel King administered the ether, and Dr. Josephine Dupre held the speculum.

[3] In the last three operations ether was administered by Dr. A. H. P. Leuf, Dr. C. N. D. Jones assisted in the operation, and Dr. E. J. C. Minard was present.

[4] Dr. Conway and Dr. C. N. D. Jones were present and assisted.

cervix, on one side, extending past the vaginal junction. The operation of trachelorrhaphy was performed, and in less than a year the patient gave birth to a child, and has had two children since. In 1885 Mrs. C—— was a patient in my private hospital, she was in a very depressed state of health, and had a deep transverse laceration of the cervix. I restored this laceration in the presence of several physicians, who were at that time attending the New York Polyclinic. The operation was successful in every respect.

Mrs. Y——, suffering from a similar condition, was, in 1888, operated on in the Woman's Hospital of Brooklyn, and the only reason why she wanted the operation was to remove an acquired sterility of nine years' duration. So, many instances could be given where the operation has resulted satisfactorily in this respect, and probably it would in every one, if there were not other and pre-existing causes of sterility. Consequently there will sometimes be a disappointing result.

In 1876 I performed this operation for Mrs. L——, on account of acquired sterility of some years' duration. Dr. C. N. D. Jones assisted. Dr. Z. Emery administered the ether. The patient was young, and in some respects seemed to be a favorable case, but the sterility was not removed, because, as I now know, there was tubal disease. So another patient, Mrs. Y——, had an acquired sterility of nine years. The lacerated cervix was repaired, but the sterility continued.[1]

While a lacerated cervix is often a cause of infertility, still we know it is a fact that some women are exceedingly fruitful who have laceration of the cervix to such a degree that it is a question whether there is sufficient vantage ground to hold the fœtus. A patient consulted me who had an extreme bilateral laceration, yet had nineteen children, and evidently the laceration had been existing some years. Another woman, who had an old laceration, had fourteen children; another sixteen, and one woman had a similar deep bilateral laceration of the cervix, and was then pregnant with her thirteenth child. Though a laceration in these cases did not cause sterility, yet it was a cause of suffering locally and constitutionally, and in depressed states of the system it may be a cause, and become the seat, of a malignant growth. Attention was drawn to this fact more than twenty years ago by Dr. T. A. Emmet.

VIII. *A Lacerated Perineum.*—A lacerated perineum is frequently a cause of sterility, by producing more or less displacement of the uterus and the uterine appendages, and consequent disease and functional disturbance. So, repairing the injuries has in many instances resulted in normal functions.

IX. *Fungoid Growths.*—In this condition we find the mucous membrane thickened, the utricular glands diseased, and consequently the uterus cannot as well perform its normal functions; besides which, the repeated hemorrhages may be a cause of sterility by preventing the fixation of the ovum.

Mrs. H——, after the birth of two children, had become sterile. The frequency and duration of menstruation continued to increase until she had well-pronounced menorrhagia, and finally it became dangerous hemorrhage. I curetted the uterus, removed a large amount of fungoid tissue—the hyperplastic mucosa—after which the menstrual flow was normal, and in two months the patient conceived.

Mrs. G—— was brought to the Woman's Hospital of Brooklyn in an almost dying condition, perfectly ensanguinated, lips blanched and pulse rapid. She was forty years of age, and had been sterile for a number of years. That evening, after attending to a number of patients, I was about leaving the hospital, then past ten o'clock, when seeing the woman in apparently so dangerous a condition, I did not consider it safe to leave her until the next morning, so had her placed upon the table, curetted fully the whole internal surface of the uterus, and swabbed it out with pure carbolic acid. The patient had no more hemorrhage, gained strength rapidly, and a month or so after leaving the hospital conceived.

In 1865 I had a similar case of long-existing sterility with hyperplastic mucosa; finally the patient was taken with profuse and apparently dangerous hemorrhage. I requested Dr. Louis Pilcher, of Brooklyn, to see the patient with me; said to him that I thought it was fungoid growths, and that they should be removed and thereby the hemorrhage stopped. But so aggravated was the patient's condition that Dr. Pilcher judged it was cancer, and that "the history of the case would be repeated hemorrhages until she died." The hemorrhages becoming more dangerous, I requested Dr. T. G. Thomas, of New York, to see the patient. He diagnosed fungoid growths, and at my request removed them. The patient recovered and is still in good health.

X. *Diseased Ova.*—I have not yet seen the condition of the ova mentioned as a cause of sterility, yet it is a serious and frequent cause, and no doubt is the secret why, in many instances, well-directed efforts to cure sterility have been unavailing. I have been surprised, in studying the morbid anatomy of the ovaries, to find how frequently the ova are diseased and abnormally changed. I first recognized the condition in the ovaries of a patient who consulted me in 1887. She was twenty-seven years of age, had been married six years, had no children. The patient was sad and broken-hearted, not so much because her health was wrecked, that she was emaciated, pale, and cadaverous, suffering pain, and not able to work or attend to her household duties, but because she could not have children. She had had excellent medical treatment by many physicians, was no better, but rather grew worse. There was serious disease of the ovaries—manifestly some unusual form of degeneration—that with me it was not a question of having children, but to save the woman's life, and trying to restore her to some degree of health. I informed the mother and husband that I did not believe anything would cure the patient or prolong her life but the removal of the diseased structures, which evidently were becoming more and more seriously affected. These were removed, the patient made a good recovery, and afterward, by microscopical examination, it was verified that almost the entire stroma of both ovaries was destroyed by an endotheliomatous growth, and the ova were found in varied forms of degeneration. Some were filled with medullary corpuscles, without a trace of the yolk, or the macula germinativa; in others the macula germinativa and the vesicular germinativa were broken down into granular matter, and the few epithelia that remained were enormously swollen or contained fat granules. In others, again, the work of destruction was still farther advanced by the yolk being changed to fibrous connective tissue. In many places the only remains of an ovum or of closely packed groups of ova were clusters of inflammatory corpuscles, changing to fibrous connective tissue.

The ova showing these various stages of a retrograde process were in the midst of newly formed myxomatous tissue, which was again taking on a new inflammation, or changing to inflammatory corpuscles, other portions to fibrous connective tissue. What was more striking still, many of the ova were being penetrated by the newly formed myxomatous tissue, and soon there would have been left not a vestige of the original ova.

The indications were that this woman, but for the changes in the ova, would, before the more serious advance of the disease, have been capable of bearing children.

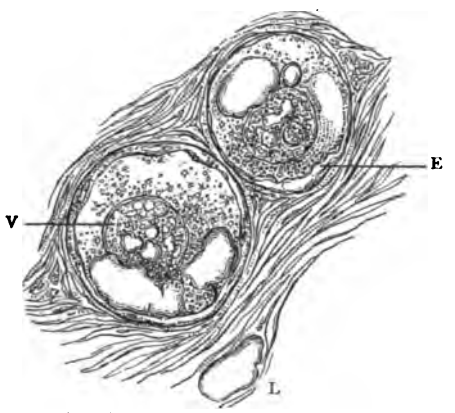
Diseased ova were next found in a patient who had pyosalpinx, and who during her whole nine years of married life was sterile. Apart from the salpingitis, the condition of the ova would have been a sufficient cause of infertility. Some of them were in a state of intense acute inflammation, some were in fatty degeneration, shrivelled, or so atrophied that there was not one anatomical element

[1] Dr. Carey administered the ether; Dr. J. H. H. Burge and Dr. C. N. D. Jones assisted.

of the original ova to be found. In one field of the miscroscope I counted as many as fifty, all shrivelled and partly waxy. No treatment or medication could have brought these ova back to health or normal activity, consequently, even apart from the salpingitis, nothing could have cured the patient's sterility.

It may here be remarked that while sections from some ovaries exhibited an almost entire destruction of the ova, sections from other ovaries, which were in some respects equally diseased, did not contain a single abnormal ovum. How or why these interesting organisms should become affected is not understood.[1] They are frequently so found in comparatively young women; so in early life must commence some of the causes which bring this terrible after-harvest of diseased ova, sterility, and ill health.

Mrs. A—— and Mrs. F——, both young women, both sterile, both had diseased tubes, and the ovaries of each contained ova in colloid degeneration. In some the yolk, the germinativa, and the epithelia were transformed into



Colloid Degeneration of Ova. × 600. V, Vesicula germinativa, with small colloid lumps; E, epithelium in colloid degeneration; L, colloid lump in the muscle-layers of the ovary.

colloid corpuscles. In others the entire centre of the ova was a colloid mass.

Such colloid lumps as L (see illustration) were found in great numbers in the muscular fibres, cyst-walls, invading the ova, and even scattered among the pigmented corpuscles of a recent menstrual follicle. They must be of some significance, or a cause of disturbance, as all the women in whose ovaries they were found had a history of suffering, and most of them were sterile.

Mrs. —— when first married was strong and in perfect health, had two children, since which time for more than ten years she has been sterile, suffering locally and constitutionally from disease of the uterine appendages, also by reflex irritation her mental conditions were at times disturbed. The ovaries and tubes on both sides were enlarged, sore, sensitive, and prolapsed in Douglas cul-de-sac. They were removed, and subsequent microscopical examination showed that there was subacute oöphoritis, and the ova were found in all stages of inflammatory action, many advanced to waxy degeneration. In one follicle there were four ova, and all waxy.

Another patient who had been sterile for years, and although the ovary was almost entirely destroyed by an endotheliomatous growth, yet at one period it was the diseased ova that caused the sterility.

XI. *Disease of the Ovaries.*—In disease of these organs we find many and varied causes of infertility. Besides abnormal ova we have acute, subacute, chronic, and intestinal oöphoritis, benign and malignant growths, and, as an outcome of previous existing disease, dislocation of the ovaries.

Acute, subacute, chronic, or interstitial oöphoritis, when intense, will change any and every structure of the ovary; the smooth muscles will be transformed into fibrous connective tissue, producing more or less cirrhosis of the organ, which necessarily interferes with the functions, and consequently will be a cause of sterility.

[1] I am still pursuing my microscopical investigations to understand the etiology and pathology of diseased ova.

In the normal ovary there is a vast amount of muscle-tissue,[1] placed there for some purpose, possibly to help in maturing the follicles of De Graaf, or to help their growth toward the surface, or to help in the extrusion of the ova.

Another cause of sterility is benign or malignant growths in the ovary; they destroy the normal structure, or produce more or less displacement of the organ, and thereby its natural relations with the tubes are lost.

Dislocation of the ovary is also a cause of sterility, as it prevents the easy co-adaptation of the ovary with the tubes. But as the dislocation most frequently results from oöphoritis, or the consequent hyperplasia, or from abnormal growths, these, then, are really the cause of the functional incapability.

A more serious cause of sterility is the formation of pseudo-membranes covering the surface of the ovary, as illustrated in Fig. 5, in "Microscopical Studies in Peritonitis." Such pseudo-membranes, or dense fibrous connective tissue, result from salpingitis, oöphoritis, or local peritonitis, and will prevent the exit of the ova from the ovary. These little organisms, of microscopic smallness, carrying their wonderful load of living matter with its vast capabilities and powers of growth, when they start on their perilous journey from the ovary to the tubes, may meet with yet greater difficulties, even insurmountable obstacles in the dense membranes that may envelop, bind down, and close the tubes; thus, many of these little beings, these marvellous masses of living matter, are lost and perish.

Schroeder speaks of "the external migration of the egg;" that is, its passage from one ovary to the tube of the opposite side. But can the ova make the supposed journey? Have they any way of locomotion or means of progress? If it takes ten or fifteen days for one to pass through the Fallopian tubes, it would be months in making such a voyage as this, a voyage so full of pitfalls and so perilous that scarcely a single ovum would ever arrive safely at the end of its Don Quixote expedition.

Is it not more likely that the countless millions of cilia in the tubes create a current sufficiently strong to draw the egg into its pavilion, or into the fimbriated extremity of one tube or the other; and then by peristaltic action of the tubes the egg is floated or blown along. Or, probably the Fallopian tubes, with their wonderful muscular structure and marvellous capability of motion, may fix themselves first upon one ovary, then upon the other, so that an egg from one side will pass through the tube on the opposite. This is not improbable, and may explain what is supposed to be the "external migration of the egg." The Fallopian tubes have wonderfully thick layers of muscles, both longitudinal and transverse—a richer supply than have the walls of the alimentary canal. It has been demonstrated [2] that they have in their walls five layers of muscles instead of three, the number usually given by anatomists. So the Fallopian tubes are capable of varied and extensive movements, and either may fix itself upon the ovary of the opposite side.

Of all causes of sterility the diseases of the Fallopian

[1] Many standard and well-known authors do not mention the presence of muscles in the ovaries. Professor J. C. Dalton, in his well-known Physiology, says: "The ovary is comparatively simple, consisting only of Graafian follicles united by connective tissue; in man the connective tissue is denser and more abundant." The American System of Obstetrics, vol. i., p. 68, says: "The adult ovaries are dense, fibroid, ovoid masses. The stroma consists fundamentally of a close felt-work of hard, fibrous, and yellow elastic connective tissue richly supplied with muscle-corpuscles." Another writer refers to "the much-vexed question as to whether smooth muscle-fibres do or do not exist in the normal ovary." Without doubt in the normal ovary there is much smooth muscle-fibres, in the cortex especially, where the muscle-bundles gracefully wind and intertwine in wonderful complexity; nor are they, according to His, "stunted muscular fibres." Can we regard the ovary as "comparatively simple" in its structure? Is it not rather a complex organization with a great variety of tissues? As Dr. H. C. Coe, in his erudite article on "Fibromata of the Ovary," published in the American Journal of Obstetrics, July, 1882, says, it is "an organ which abounds in inexplicable things—anomalous appearances so frequently encountered, at whose pathological import we can merely guess."

[2] In Dr. Heitzman's laboratory.

tubes are by far the most frequent and the most serious. The health of no organ is more essential to fertility. The uterus may be lacerated, ulcerated, anteflexed, retroflexed, enlarged, displaced, cancerous, or the seat of fibromatous growths, yet if the Fallopian tubes are healthy conception is possible. The ovaries may be dislocated, and the seat of varied forms of degeneration, the woman hysterical, have painful menstruation and pelvic pains, yet if the carriers of the egg are healthy all may be well. I have seen a healthy ovum in the midst of a sea of ovarian disease; such an ovum, if the tubes are all right, may accomplish its full destination. But when the tubes are diseased, the mucosa thickened, swollen, or converted into masses of inflammatory corpuscles, the walls changed, its muscular structure destroyed, the fimbriated extremity closed, and possibly the whole tube converted into an abscess, then the tubes are no longer capable of performing their functions. They are physiologically dead. The woman is completely and forever sterile. As well talk of one who is stone-blind seeing the fine colors of the rainbow.

In performing laparotomy one often observes that the uterine appendages on one side are more profoundly diseased than are the uterine appendages on the opposite side, also unmistakable evidence that the disease has existed a much longer period on one side than on the other. Sometimes the appendages on one side may be almost normal, while those on the opposite are so thoroughly diseased as to be incapable of cure, or of performing any physiological function.

It is also a fact that if the uterine appendages on one side are seriously diseased, it will interfere with, and probably prevent, the more healthy organs on the opposite side from performing their normal functions; and what is still more remarkable, the diseased organs on one side will sooner or later involve or cause the more healthy ones on the opposite side to become diseased. If, before this takes place, the already diseased appendages are removed, the remaining ones may become more healthy and more capable of performing their functions, and thus a woman who would otherwise remain sterile may, by the operation, become fruitful and bear children.

Mrs K—— came to the dispensary of the Woman's Hospital suffering in general health, pain in the pelvis, and evident disease of the uterine appendages, and was sterile.

The uterine appendages on one side were much more diseased than on the opposite. We judged by removing the more diseased organs the less diseased would grow more healthy, and, for a while at least, be able to perform their functions. The operation was performed April 16, 1889. The patient made an excellent recovery, and was continued under special treatment till June 26th of the same year, when she left the hospital. On June 20, 1890, she was delivered of a healthy female child. August 3, 1891, she was delivered of a second child, and without any indications of strain on the abdominal walls. The patient is now in excellent health, with probabilities of having several more children.[1]

If the uterine appendages which were diseased had not been removed, they would in time have affected those on the opposite side, and thereby hopeless sterility would have ensued. By the operation the patient was relieved of pain, restored to health, and made fruitful.

The advantage of a unilateral operation, as to fruitfulness, is often illustrated in the removal of a cystoma, after which, as repeatedly proved by clinical experience, a woman who was previously sterile is capable of becoming pregnant.

Conclusion.—Sterility results from disease or defective formation, the indications are to cure the disease and correct the defects.

[1] An instance is given of a woman who had the uterine appendages only on one side, yet she had nine children. I have counted in one microscopical section seventy-three good ova.

THE PREVENTION OF VENTRAL HERNIA AFTER ABDOMINAL SECTION.

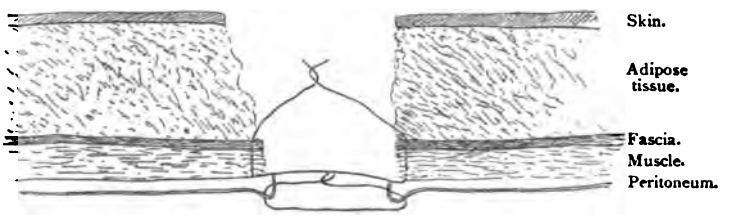
By W. R. PRYOR, M.D.,

NEW YORK.

When I recently reported to the New York Obstetrical Society cases illustrating my method of treating the parietal wound after abdominal section, I scarcely thought the important but simple procedure would attract so much attention.

One result of the discussion about it has been to bring to light a great many cases of ventral hernia, and to convince me that many women have it who should have escaped that most troublesome sequela of the operation. In conversation and discussion upon the subject, my surgical friends have confessed the acquaintance of so large a number of these unfortunates that I am persuaded they exist in a most distressing percentage.

I can conceive of no excuse for this accident after abdominal section, except in one class of cases. Here it is perfectly natural to expect it, viz., in cases where the pedicle must be treated externally. No little blame for these ventral hernias attaches to the manner in which many surgeons make the abdominal wound. The incision through every layer of the parietal wall, except the peritoneal, should be made with the knife. Yet how often do we see operators clipping a little tissue with the scissors, then cutting a little more on a grooved director, or inserting two fingers and tearing the tissues apart in that way! It is as absolutely necessary to primary union, here as elsewhere, that we have clean-cut and smooth edges to approximate. Another error into which the surgeon, operating perhaps against time, is apt to fall, is that of bringing together the edges of the wound before all bleeding has been controlled. Hæmatoma and pockets of blood are frequently the cause of partial and incomplete union.



But granted that the abdomen has been opened in the most approved manner, and the operation so completed that there exists no necessity for a drainage-tube, shall the surgeon, in all cases, bring together by one set of sutures all the layers of the parietes—skin, fat, fascia, muscle, and peritoneum? I have formulated for my own guidance the general rule that when the belly fat is over an inch thick I will treat the wound by my method. I do this not so much because of my belief in the uselessness of union between fat surfaces, as because I am convinced that to do otherwise I run two risks: either I fail to accurately coapt the fascial and muscular edges, or else, in tying the sutures with force sufficient to bring together the deeper layers of the parietes, I strangulate the fat surfaces. The abdominal fat is but poorly supplied with blood-vessels, and where it is at all excessive, sutures tied sufficiently close to approximate the fascial and muscular edges must of an almost necessity produce mural abscesses. Years ago I recognized this fact, and attempted to prevent the occurrence, in fat women, by introducing between the sutures pieces of small drainage-tubing. But I succeeded partially only. These mural abscesses hardly deserve the name. At first they contain little other than liquid and broken-down fat. The strangulation of the fat by the sutures may not be sufficient to produce abscess, but merely a degree of inflammation which prevents firm union between the fascial and muscular edges. Both the formation of mural abscess and that lesser degree of inflammation can be avoided by adopting my method when necessary; and, as I have said, this is usually the case where the fat is of greater thickness than one inch.

But though mural abscesses are to blame for many ventral hernias, the use of drainage-tubes is equally so. Still, we must sometimes use drainage. I believe I now know how to use them without subjecting the patient to much more risk of future rupture than obtains in a perfectly simple case. I will not enter into a discussion upon the advisability of using drainage. But there are two things against which I wish to protest, viz., the use of irrigating tubes, and the use of every kind of tube for too long a time. My belief is that the dry, the capillary way of draining by means of glass tubes packed with strips of dry bichloride gauze, is the proper one. I cannot too strongly condemn the use of every form of tube, especially double tubes, into which various kinds of solutions are injected. They but tend to break up that tender lymph-tube which so early surrounds our drainage-tube and shuts off our field of drainage from the general peritoneal cavity; or else washing with such tubes disseminates among the intestines the very material which we wish to remove. We should use drainage-tubes not with the object of draining the general peritoneal sac, but to withdraw immediately upon its formation all fluid from a certain locality. We drain locally, not generally. Most of us accept the belief that these drainage-tubes are beneficial within the first three days only; after that time, except in rare cases, the tube has become entirely encysted. It is useless to leave it in longer; yet many prominent men use them for so long a time that the lymph-sac becomes itself the source of a serous discharge. If we withdraw the tube within the first forty-eight hours, the plastic lymph-tube collapses and its walls cohere. If we leave it in for a longer time, the track will probably have to be drained by the daily introduction of a shorter and shorter tube. I would lay it down as a general rule in drained cases, without exceptions, in lean and fat women alike, that the closing sutures shall not include the skin and fat layers; but that the wound shall be treated as I shall describe. By our carefully applied sutures we have succeeded in uniting the peritoneal and muscular and fascial surfaces, except where the drainage-tube passes through them. This latter we remove within two days usually. Treated as I shall describe, this hiatus left in the line of union will become gradually buried under the granulating surface, and will ultimately lie underneath the firm cicatrix of granulation, instead of being a point of weakness in the scar.

It is an undeniable fact that the scar of granulation produced from a fat surface is stronger than the scar of primary union in a similar tissue, inasmuch as firm contracting cicatricial tissue replaces the loose adipose. Furthermore, the scar from granulation contracts in a few months to often less than half the length of the original wound. The time which it takes for such a granulating wound to heal varies, of course, with its size. In four weeks' time a fat surface of six inches in length and two in depth will be closed. The largest I have ever made was eight inches long and five deep: it closed in eight weeks, though a drainage-tube case.

But the increased time under treatment counts as nothing against the certain escape from mural abscess, and a possible subsequent hernia. My patients wear no form of abdominal supporter, as none is necessary.

Method of Operating.—The skin and fat should be cut through smoothly and evenly down to the fascia. All bleeding points are grasped in pressure-forceps, or tied, as best suits the fancy of the operator. The fascia and muscle should also be carefully and evenly cut with the knife, and all bleeding arrested by ligature with fine juniper catgut. I am opposed to the use of pressure-forceps here, as they bruise and drag upon the tissues so as to hinder union. The peritoneum is snipped with scissors, and the operation is finished according to the indications. In making the parietal incision, do not search to one side or the other for the linea alba. By so doing we tend to make a ragged wound. Go down straight in the median line through the tissues before you. All I want to insist upon is the clean cut incision and avoidance of crushing the tissues by forceps.

If the operator decides to adopt my method, he will close the wound as follows:

The peritoneum is united by frequent interrupted sutures of catgut, applied in the Lembert manner. Sutures of silk (Czerny) are passed through the fascia and muscle so as accurately to coapt those two layers before the catgut sutures are tied. (See illustration, p. 326). Having inserted the silk sutures, the catgut sutures are tied and the ends cut short. The silk sutures are tied alternately with the catgut, so that they may be supporting all the catgut sutures which have previously been tied. The ends of the silk are left long and all tied together in one bundle, and tucked away at the bottom of the wound. The wound should be irrigated with 1 to 5,000 bichloride solution, and packed with dry bichloride gauze. The procedure is practically the same in all cases, whether or not drainage be used, with the difference that in the latter case we should see that the drainage-tube is long enough to come to the top of the packing, where it can be attended to without soiling the packing. The first dressing is usually made in three or four days, or when the drainage-tube is removed, where used. In that case the track of the tube must be packed with the gauze down to the peritoneum only. The sutures of silk I generally remove on the seventh day; they will be found in the bottom of the wound, usually partly covered by the granulations which have already begun to form.

By using this method in fat women, in drainage cases, and in operations for the cure of ventral hernia, we obtain the following results:

1. Primary union between the muscular and fascial surfaces is insured.
2. Mural abscesses are impossible.
3. The resulting scar is composed of the firmest tissue; it is part and parcel of the scar of primary union between the fascial and muscular edges; it replaces loose adipose tissue and elastic skin; and by its contraction it very much reduces the space through which a rupture may occur.
4. In drainage-tube cases the tube-track is buried entirely beneath a mass of cicatricial tissue, extending from skin to peritoneum.
5. Hernia cannot possibly occur.

EXPERIMENTS ILLUSTRATING THE INFLUENCE OF INTERNAL BATHS IN THE TREATMENT OF TYPHOID FEVER.

By W. E. FOREST, M.D.,

NEW YORK.

In a very interesting article in the MEDICAL RECORD of July 4th, Dr. Beverley Robinson gives his views as to "The Internal Use of Water in the Treatment of Typhoid Fever." Dr. Robinson states that he was led to the position he holds principally by the writings of Dr. Debove and Professor Cantani. Both gentlemen advocate the free use of water internally as a means of reducing temperature and eliminating poison from the system. They use water in this manner in preference to the cold baths externally, accordingly to the Brand method of treatment. Dr. Debove's views, according to Dr. Robinson, are as follows:

"Dr. Debove prescribes no drugs, but he urges his patients to drink water. He gives them six to seven litres in twenty-four hours. Each person passes his urine into a vessel where it is kept, and if the quantity does not seem sufficient to Dr. Debove, he stimulates the zeal of the nurses, and, as he says, he does not simply allow his patients to drink, he obliges them to drink. Dr. Debove concluded that many complications in typhoid fever—if not, indeed, all—are the effect of a poison, and the way of elimination of this poison is through the kidneys. If

cold baths act, perhaps they act in promoting diuresis, for this diuresis is noticed by almost all clinicians."

Professor Cantani's views are much the same, only to the drinking of cold water he adds large injections.

"Professor Cantani, in his treatment of typhoid fever, considers the slight reductions of temperature obtained by drinking cold water as preferable to the marked antipyresis obtained by a cold bath. He adjoins to cold water by the mouth large injections of cold water, rendered slightly antiseptic, by the rectum. The latter he administers twice daily.

"Both of these methods of treatment increase the quantity of urine and diminish its specific gravity, especially the drinking of water, and, as Cantani believes, the antithermic effect is produced more surely than by other hydro-therapeutic methods. It likewise seems evident that the cold water is absorbed in large quantities and then cools the entire body, and even the blood. In this manner Cantani considers that the tissues are permeated and cleansed by the water and freed of ptomaïnes, and this takes place without disturbance of any kind, except occasionally a slight chill. Cantani also believes that if cold injections be employed at the beginning of typhoid fever, it is possible to abort the disease in very many cases."

It will be seen that both gentlemen claim that the most important influence of the internal use of water is its stimulatory effect on the kidneys, and the increased elimination of poison through them.

In this connection it may be of interest to show how greatly the kidneys can be stimulated by what I may call colon baths. The experiments illustrating this were carried out on myself and one other person, a young man in the first stage of acute nephritis.

I first ascertained by a series of observations that the average amount of urine passed between the hours of 9 P.M. and 9 A.M., twelve hours, was twenty-two ounces. Specific gravity averaged 1.016.

Experiment 1.—November 10th, at 10 P.M., after washing out the colon, I injected twenty ounces of milk and water in equal proportions, at a temperature of 110° F., and retained the fluid. Within the next twelve hours passed fifty-six ounces of urine, instead of the usual quantity, namely twenty-two ounces. Specific gravity, 1.010.

Experiment 2.—After flushing of the colon at night, injected and retained sixteen ounces of milk and water. Passed in the next twelve hours fifty-four ounces. Specific gravity, 1.005.

Experiment 3.—Took a thorough colon flushing, but did not retain any of the fluid. Passed during the next twelve hours forty ounces urine. Specific gravity, 1.012.

Experiment 4.—Took no flushing, but at 10 P.M. injected eight ounces of water containing fifteen grains iodide of potash in solution. Awoke out of a sleep in two hours with the peculiar taste of iodide in the throat; this proved that the drug had entered the blood about as quickly as if taken into the stomach. The urine passed at this time, namely, two hours after the injection, gave the reaction for iodide of potash, showing that the drug was already passing out of the system through the kidneys.

The amount of urine passed in the twelve hours in this experiment was only seventeen ounces. This drug, iodide of potash, is supposed to act as a diuretic on the kidneys, *i.e.*, to increase the flow of the urine. It did not do so in this case, and hot water alone proved a much more powerful stimulant to the kidneys.

A large number of experiments were made, all going to prove that a flushing of the colon with hot water, followed by an injection of from a half-pint to a pint of hot water that is retained, is a quick, safe, and powerful means to stimulate the kidneys into action. This method is a more powerful diuretic than any drug known to me. The only precaution to be used in order to retain the hot water is to immediately lie down for a half-hour after receiving the injection. It is a good plan in these cases to be all ready for bed, and to retire immediately after receiving the injection.

The outcome of the experiments made on myself proved, 1st, that from twelve to twenty ounces of warm or hot water can be retained at one time in the colon, and that all of this will be absorbed into the blood; 2d, that the normal amount of urine secreted by the kidneys in twelve hours may be more than doubled by means of such retained injections; 3d, that the mere flushing of the colon by a large quantity of hot water (two quarts at least, at one injection) powerfully stimulates the action of the kidneys. Part of this effect is due to the internal application of heat, and part due to some of the water being absorbed.

This plan of treatment I have found by experience of great benefit in the treatment of all kinds of fevers. Professor Cantani's plan of large cold enemas has not given me the same good results that warm or hot enemas have. As both Debove and Cantani claim that most of the good effect of the internal use of water in fevers is due to the increased elimination through the kidneys, it is fair to assume from the experiments given that a very important auxiliary in these cases to the internal bath by the mouth is the internal hot bath by the colon.

As confirmatory of the views given above, I have the history of a recent mild but well-marked case of typhoid fever, that became free from fever and convalescent in six days under treatment by large quantities of Vichy water by the mouth, and three large warm colon baths each day.

The influence of these colon baths on the first stage of acute nephritis will appear from the following case:

W. C——, twenty-six years of age, clerk, came to my office one morning complaining of the following symptoms: He had a headache, complete loss of appetite, had slept little or none the previous nights, had pain and heaviness in the back, in the region of the kidneys, and, most noticeable of all, he was passing but little urine, this of a very high color, and it caused him pain to pass it. He had had an attack of this kind the previous year, from the effects of which he did not recover in more than a month, so he knew pretty well what the difficulty was. He had brought along a small specimen of the morning's urine for examination. I found, on a chemical examination, about twenty-five per cent. of albumin present; with the microscope, blood-casts and blood-cells in abundance. It was then a clear case of acute congestion and inflammation of the kidneys. I advised his going immediately to bed and to commence the use of the hot colon injections. Owing to business complications he could not give up work for at least twenty-four hours, no matter what the danger might be. I gave him the best and safest drug possible under these circumstances, namely, sulphate of magnesia, a teaspoonful every hour, in water.

The next day he called again. No better—rather worse; had taken the medicine all day, but no effect on kidneys. The water was less, not more than twelve ounces in twenty-four hours, and contained blood in abundance; could be seen plainly with the eye alone. At my suggestion he now went home, took a warm bath, and went to bed. Immediately after his bath he took an enema of a pint of hot water and retained it. In six hours he repeated this enema, and in six hours more took another, same quantity, all retained.

I called at his home the next day, and he gave me the following record as to the amount of urine passed in the preceding twenty-four hours:

12.30 P.M.	4 oz.
4.30 P.M.	6 oz.
7.30 P.M.	4 oz.
10.30 P.M.	5 oz.
11.00 P.M.	4 oz.
7.00 A.M.	9 oz.
10.30 A.M.	5 oz.
12.00 A.M.	3 oz.
Total	40 oz.

That is, during twenty-four hours, without drugs, but under the use of the hot injection, he passed forty ounces.

In the preceding twenty-four hours, while taking a drug hourly, he passed one-third of this quantity. During the last part of the second day he was in bed, which undoubtedly helped to bring about the good result.

The best part of this second day's report was that the pain in the back had almost entirely gone; and I found on examination that the blood had disappeared from the urine and every bad symptom greatly improved. Albumin was still present in small quantity, however. He continued this treatment two days more. The result on the second day of treatment by hot injections was even more striking than on the first day.

He then returned to business, although not entirely recovered, as a little albumin was still found on chemical examination. This disappeared in the course of ten days, and the patient made a perfect recovery.

At the previous attack of this same trouble (not so severe an attack) the patient, under drug treatment, had been confined to the house more than two weeks, and did not entirely recover for a long time after that.

In all cases where the water is to be retained, the colon should first be washed out by a large warm injection.

39½ Washington Square.

THE NEW AMERICANS.

By J. WARREN ACHORN, M.D.,

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The occasional travelling doctor on an ocean steamship is not a person greatly to be envied. If his title could be stowed with his baggage for the voyage, it would be better for him and equally well for those about him. If sea-sick, he is laughed at by those who are not, and even by some of those who are; the ship's surgeon gives him a wide berth, and the sailors think him a Jonah. If well, aside from the bodily comfort of it, he is no better off. The first day out usually discovers his identity along with the sea-sickness on board, and his mental discomfiture begins. Appealed to on all sides by those who are well in behalf of those who are sick, and by the sick themselves, whose sufferings he would willingly do what he could to alleviate, he can do nothing. The rules of the ship and professional etiquette forbid it. Professionally, at least, he is sadly out of place. Subject to these restrictions I made the home passage recently from Europe. I am never sea-sick. Aside from the usual reading, waiting, and watching the winter waves of the western ocean, I determined to devote some time to a professional study of the "New Americans," as the immigrants on board were styled. Here was a chance to view them in a body, to see what they were made up of physically. They numbered six hundred, and included Italians, Hungarians, Polish and Hungarian Jews, Russians, Bohemians, Sclavonians, and Arabs- practically a village of the varieties that come to us from Eastern and Southern Europe. At first I reviewed them from the promenade-deck, as on sunshiny days they swarmed the main-deck forward and aft, a motley hodgepodge lot. There were young men and women among them, walking quickly and erectly; there were fathers and mothers, with their children, some of whom were plump and ruddy, others poor, puny things; there were women of fifty, men of sixty and even seventy years of age, alone or with others of their kin. I counted sixteen of these old people the day we crossed the Grand Banks. The sea being smoother and the air warmer on that day they showed themselves on deck. There were intelligent faces to be seen among them, and others showing little intellectual force. Dull eyes let little soul-light out of many faces. Meanness and cunning marked many for their own. Expressive lines of care and responsibility had their tracings in the faces and foreheads of some, but for the greater number there was that alone which goes with fear, or sea-sickness, or cold, and the want of proper food and care. The dress of the entire lot was anything to wear, but distinctive, perhaps, of the country that gave the wearer his nativity. There was general lack of neatness in all. The eating, when food was served, was without shadow of refinement. It was animal in the extreme. Cleanliness, if it ever had a thought under the existing conditions, was out of the question. The natures presented varied as much as the nationalities. Spirituality failed to show its head. Pugnacity predominated. I was witness to several rows during the voyage, and on one occasion helped dress the vanquished's wounds. The dusky-skinned Arabs looked strangely un-American. The peculiar physiognomy of certain diseases so pregnant with meaning to the skilled observer was stamped on the upturned faces of many. The ruddy, the anæmic, the jaundiced, the straw-colored, the syphilitic and scrofulous, all looked over the rail together into the sea. There were diseases of the spine and affections of the joints of the lower extremities among them, as evidenced by bent bodies and limping gaits. I have a record of seven that went lame upon the deck, and of eighteen others found to be deformed, six of whom at least showed visible deformity at times through the clothes they wore. Five of these eighteen were children. At the New York inspection these five passed muster, dangling from the backs of their elders. If they had not been packed along in this way they might, perhaps, have been allowed to crawl past the inspector. An old Jewess was pointed out to me by the chief engineer of the ship with the remark: "She has crossed before, and brings the young ones back with her." Six or eight Hungarian Jewesses, girls of seventeen to twenty years of age, were gathered about her. "They are prettier and cleaner than the Russian Jewesses," he continued, "and so preferred."

"Are they intended for New York houses?" I asked. "Yes; or for the Hungarian miners in Pennsylvania. This old woman has crossed with us before—a regular business with her."

Later in the voyage, with the knowledge of the captain and the tacit consent of the ship's surgeon, I began the self-imposed task of making a physical examination of these immigrants — nautically speaking, a professional overhauling. This was done in the between-decks of the ship. A part of what I gathered, however, was afforded me in connection with the surgeon's office. An examination of one hundred and fifty three selected cases out of the six hundred on board, ninety of whom were males and the balance females and children of either sex, discovered the following: Four cases of advanced consumption, all men, one of whom died on the voyage and was buried at sea. The ship's surgeon admitted my record of four by saying, "Yes, there are four, and probably more." The sallow complexion of inherited syphilis, with the peculiar notched teeth, was noted in six. Two cases of strumous fetid abscess among the men underwent treatment at the doctor's hands during the first week out. I was present at both operations. The suppurating glands were in the left neck in the first instance, and in the groin, same side, in the second. I do not know that these men were stripped and examined in New York. It was not done in my sight. They were both suffering from a constitutionally "loathsome disease," and officials, as the law provides, should effectively debar any such from landing in this country. It should be borne in mind that both these men wore clothes, had vaccinating cards, and could walk. Three men under the doctor's care were affected with a local venereal disease more or less chronic, and incurable in the short time afforded for treatment. An Arab suffering from inflammation of the stomach was among the sick. The day we were due in port he was at one time unconscious from pain and weakness, but revived sufficiently to land. Before we left the dock in Europe he was on the sick list and begging for treatment. He was brought to me by a gentleman on board who understood

his language and wants, and who knew that I was a physician. One case of scarlet fever or measles subsided before it was called into account. I did not see this case; it was that of a child, but the probable outcome of the same was discussed in my presence. A mother gave birth to a child in the water-closet. She was discovered there as she was in the act of disposing of her babe. There was a case of delirium tremens in a man of thirty-five. His wife had died in the old country, but his six little children attended him. They were all of dependent age. During twelve days the man was straight-jacketed, and it was an open question with the surgeon whether he would die, or living, be sobered up sufficiently to land. Big doses of bromide, chloral, and capsicum finally tided him by the inspectors, into the United States of America. I have notes of nine strumous or rickety children. One of these, having an abscess pointing in the right neck, was operated upon. Another died and was buried at sea. One young man was found suffering from cramps in the lower extremities, due to some, to me unknown, central cause. They were liable to occur at any time, he said, and while they lasted he was unable to walk or help himself. Valvular heart disease in a woman of thirty allowed her to move along the deck, but the effort of mounting a flight of steps visibly exhausted her for the time. A young man among the sailors was pointed out to me by the surgeon as likely to be returned. He was blind in his left eye from cataract due to syphilis. He was returned. More than ten pairs of hands out of three hundred held up showed permanent injury or deformity of some sort in one or both. The noticeable foot deformity was that of enlargement of the second joint of the great toe, the latter turning sharply out. This is due, probably, to the peculiar pointed shoe worn so extensively in Europe by the laboring classes. The "ploughman's shoe" it is styled, and at best it is an ugly affair. Of skin diseases, parasitical or otherwise, there were any number. One of the saloon passengers, a Jewess, having a berth in the after-cabin, and a seat at the captain's table, because of her scratching and by the surgeon's advice, was let down from her high estate to the main-deck, in spite of her protests and the fact that she wore diamonds. I shall mention but one other skin disease, that of favus of the scalp. According to Bulkley, of New York, this disease is pathognomonic of Austro-Hungary. The baldness resulting is usually permanent. Two Italians, numbers 61 and 187, were rare specimens from the mountainous wilds of that far-famed country. I remember having seen but one other such, and that while serving as interne in the Brooklyn Hospital. The original was haired up to his diaphragm like a black dog. None of the Italians in the wards could well understand him, and when he left the institution, it was of his own free-will, knife in hand, through the hospital kitchen and over the yard fence by the jail. Of those who went lame on the deck three were old men, and their disability was found, on examination, to be due in each case to ulcer of the leg; difficult enough to cure in workingmen of advanced years. There were seventeen old men and women in all on board, as I rated them, good hospital subjects—men and women too old to forget the old country, too old ever to learn to love or work successfully in the new—practically, unless otherwise provided for, turned loose in America to beg—beg during the summer months in the country places, and spend their winters in the various hotel hospitals of our larger cities, having gained a freight-train ride to town. Any man who has ever served in the hospitals of our larger cities, particularly those in and around New York, can tell all about the fall "round ups" and of the return of the wanderers to winter quarters. Statistics show that fully one-half of the inmates of our seaboard city hospitals are foreign born. Save the man with the cataract, I saw but one other person of the entire six hundred detained by the inspector at New York. He was a lonesome, ratty-looking, little old man of seventy. He appeared astonished with the liberty taken with his person, and shook his vaccinating card in the face of the man who turned him round, defiantly. As he stood this review without falling, he was passed. The red vaccinating card saved him, with the others, for citizenship in the United States.

Such this village of six hundred presented itself, and such is the record in part of the physical condition of the one hundred and fifty-three who underwent examination. One question for us is, What became of these immigrants after they landed? I have already indicated the probable destination of the old men and women, and the Hungarian Jewesses. The fifty Hungarians and Poles, with their consorts, could probably be found among the recently mining rioters in Pennsylvania; or if not, then upon some railroad dump, at work, since the Irishman has graduated from that position and taken up with the better government of our cities. Of the one hundred Italians, some of them, perhaps, located in New Orleans and enjoyed the late festivities indulged in by that town; and some of them, doubtless, might be found here in our Northern cities, selling shoe-strings or bone buttons on the street corners. The Russians, of course, are employed as "sweaters" in the New York slums, making pants at thirteen cents a pair. The Germans and Scandinavians are probably located on the farming lands of Minnesota or of the Dakotas. The Arabs and Sclavonians numbered about twenty-five. What they expect to do with themselves in this country is more than I can divine. Drive camels, may be, on the Great American Desert. The balance of the lot were mainly children and young women, of whom there were very many. These latter presumably find employment among us as servants. This disposes of the cargo for the most part, and what an addition they are to our numbers! How does this imported village compare, do you think, with an old-time New-England village of six hundred souls? In numbers, at least, there is equality, but how is it, if we attempt to measure sterling qualities, intelligence, refinement, worth? Will one of their genus ever develop into the time-honored country squire? Think you that one of these Sclavonians will transmute into the village parson? I failed to see the school-master's face among them; the blacksmith's, even, was wanting. The man that kept the corner grocery, whose red shutters used to creak on snowy nights in the night wind, I failed to see him; or the doctor, whom the people were wont to love and trust; or the postmaster, versed in the politics of the State and town. The rich man may have been among them, but I didn't see him. I didn't see even the town clown. And the farming people that lived in the surrounding country, I am not sure that I saw them there.

The captain of our ship remarked to me one day, that we had more paupers in America than in any other country abroad. "If this is so, captain," I replied, "is it any wonder, when your ships bring us four thousand such as these you have here every month? It's a pretty good country that can absorb the scum of all nations, and none can hope to do it profitably." That we are the laughing-stock of all nations, because of this acceptance and our indifference, is true. The conversation continued on the subject of immigration. The mate of the ship told the following story: It appears that Carver's Wild West Show took passage on the ship on her previous eastern voyage, and that a part of the paraphernalia of the same was an old-fashioned stage-coach. This was stowed between decks, and was used by the cow-boys of the show as a sort of rendezvous. Here they used to play poker daily. Under the driver's seat in this coach a little nigger boy had stowed himself away. Three days sufficed to starve him out, and when the mate discovered him and demanded to know what he was doing there, the Ebony replied: "I'se only want ter black der cow-boys' shoes, sar."

On arrival of the ship in a German port, the little darkey made his escape, and the captain and the mate were held in the sum of three hundred marks by the offi-

cials for the discovery and return to America of this little, sound nigger, who had escaped into all Europe. If we were to impose a tax of three hundred marks on every head escaping into this country, we should doubtless have less paupers and more prosperity. If we were to establish a standard of immigration and insist upon certain qualifications of admission into our land, greater respect would be entertained for the privileges of our citizenship. If we are to have no intellectual property, or moral qualifications as terms of admission, or if they are to become a dead letter, at least we should demand that the people who come among us be physically sound. If this shipload is a fair sample, then the amount of disease that is being imported annually into this country is appalling. If our law-makers are so indifferent to this question that they will make no adequate provision for the well-being of the nation, it is time for the physicians of America to unite in demanding as a plank in the next presidential platforms that at least only sound immigrants be landed here. Some effort should be made to preserve the standard of health among us as a people. At present sufficient care is not exercised. Every man, woman, and child seeking a home here should be stripped and examined by competent men. Whether this work can best be done here or abroad is not for me to discuss. A vaccinating card should not be received as a passport to American citizenship, to privileges and prerogatives sought for by all men in all ages. If the American people are to have a lasting future, they must see to it that the seeds of disease are no longer allowed to be sown broadcast in the land.

I have not told all that my note-book contains, but I have cited enough to show that the present system of examining immigrants admitted into the United States is ridiculously inadequate. It is time this grave national question received proper attention. It is time that the hordes dumped daily upon our wharves, to scatter at will, if they are to be judged by no other standard should at least bear the trade-mark, "physically sound."

Clinical Department.

PAPILLOMA OF THE OVARY (DOUBLE) DISSEMINATED EXTENSIVELY OVER THE PERITONEUM—OPERATION—RECOVERY.

By FRANK L. BURT, M.D.,

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On making abdominal section for the removal of any growth, few conditions are found more painful to the operator and serious to the patient than the discovery of portions of papillary masses disseminated over the peritoneum.

A short time since, such cases were given up for good, and it was not even expected that they would recover from the operation. Recent experience of specialists has proven, however, that such is not the case, and that diffused papillomata are not of necessity malignant. They may entirely disappear, and we now have recorded cases of perfect recovery. Such has been the outcome in one of my own cases, the history of which is as follows:

Miss D——, aged thirty-three, was first seen by me in March, 1890. To describe briefly: Her menses appeared at fifteen, always regular, of three or four days' duration, and always associated with severe pain. During the last four years her pains were never any worse, but at times she was even better. Has had irritation of the bladder frequently for two years past. Bowels always constipated, but very much worse for last two years. Except for painful menstruation and sick headache she has considered herself well until about four years ago, when she began to feel pain in the right ovarian region on reaching or stepping up. She could not lie on the right side. She experienced a fulness after eating a very small quantity. About a year and a half ago the abdomen began to enlarge with an accumulation of ascitic fluid. Six months later her physician was consulted and a diagnosis made of "gas and water" in the bowels. The treatment was turpentine, blue pill, etc.

In November, 1889, Dr. Mary Carleton was consulted, and a diagnosis of ovarian tumors was made. The patient was referred to me for operation.

Between November and the following March, when I first saw her, she took about seventy-five vapor baths. These reduced the ascitic fluid somewhat, and, as a consequence, made her feel better.

In March I diagnosed ovarian tumors and advised removal. The patient entered my private hospital April 20, 1890, and was operated upon the same day in the presence of six physicians. On opening the peritoneum about two quarts of fluid escaped. On the right side was found a cyst, a little larger than an infant head, which proved to be a papilloma with contents partly fluid. A similar growth, of about half the size and entirely exposed, was seen to arise from the left ovary. The growth had so thoroughly come in contact with the omentum and bowels that these organs were studded with thousands of these papillary masses from contact with the primary growth. The omentum was considerably thickened, and both omentum and bowel presented a very congested, angry appearance. These conditions were considered by all present to make the case an utterly hopeless one for recovery. The growths were removed in the usual manner, and I was able to make a stump in tissues nearly free from any appearance of the disease.

The cavity was thoroughly washed out with boiled water to get rid of as much *débris* as possible. Numerous small pieces were washed away. The wound was closed over a very small rubber drainage-tube, which was kept in place for forty-eight hours. After putting to bed we had a mishap in the way of an extensive burn on the right thigh from a water-bag. This was several weeks in healing, and did not present a healthy appearance considerable of the time; but aside from the fact that it delayed recovery I cannot but feel that it was beneficial to the patient. I do not, however, under similar circumstances, recommend quite so extensive a counter-irritation if indicated at all. Nothing else of interest happened while under my care for a period of four months. On her anniversary day she presented herself, and everything was very satisfactory. There was a gain of over twenty pounds in weight, and nothing was found about the abdomen by way of new growth, accumulation of fluid, or tenderness, and now, after a period of fourteen months, presenting a picture of health, we can consider the patient as cured. She was seen recently by her physician, Dr. Carleton, who describes her as being in perfect health. Constipation, from which she has suffered so long, has been improving rapidly during the last few months.

Outside of my own practice I have seen two cases. One was of double ovarian papilloma, of long duration, and with an excessive amount of fluid. Operation brought relief in every way, but the patient died from exhaustion after a very short period.

The other was of shorter duration, in which the disease arose from the left ovary. There was little previous history, and nothing after operation, as the patient was said to have died of septicæmia within a few days.

Concerning this class of cases there is but little literature of which I am aware. In the *Boston Medical and Surgical Journal* for 1874, Dr. H. O. Marcy, of Boston, reported a case, which shortly proved fatal from sepsis. In the same year Dr. John Homans also published a case in the same journal, which alike resulted fatally. Dr. Flaischlen published a monograph in the 1889 volume of the *Zeitschrift für Geburtshülfe* of the collected literature on the subject. He found six cases, including the two above mentioned, published in Boston in 1874.

In the *Centralblat f. Gynäk.*, June 7, 1890, Dr. Seetu-

gin related two cases. In one case a partial removal of a papillomatous ovary was followed by apparent disappearance of a large mass which infected the peritoneum. There was marked ascites, but it did not recur. In the second there was disease of both ovaries, with ascites and infection of the peritoneum. The right ovary only could be removed. It was papillomatous, and also bore signs of malignant degeneration. The patient was living a year later, having no recurrence of the ascites, and the tumor from the left ovary grew but little. The peritoneal papillomata had apparently disappeared. The patient later became insane and the future history could not be traced.

Professor Freund has found that even a partial removal of these papillomatous tumors of the ovary may be followed by atrophy of the disseminated growths.

Other articles on this subject are by Dawson in the *American Journal of Obstetrics*, vol. xvii., p. 855, and by Coblenz in the *Archives for Pathological Anatomy*, 1880, vol. lxxxii., pages 268–316.

In the present year there was a report of a case of papilloma of the Fallopian tube by Dr. Doleris.[1] He thinks it the first case noted in France.

Concerning this class of cases it seems necessary for the profession to hold different views from those entertained even so short a time as two years ago. New light has come to this subject, and we find that we need not of necessity feel alarmed when one of our patients is afflicted in this manner. We should remove the growth complete, if possible; but if that cannot be done we may know that the remainder may be taken care of as stated above, and the case recover. An early operation is quite generally advised in cases of ovarian tumors at present, and in this class I think an early operation especially to be recommended before the patient begins to reduce much in health. It has been a surprise to us that these disseminated masses could be in any way controlled so that their growth should be stopped and cause no further harm to the body.

There is no explanation at present of which I am aware, and we must leave this point for future investigators to explain.

751 Tremont Street.

Progress of Medical Science.

Modern Renal Surgery.—Dr. A. Obalinski sums up his views regarding the treatment of severe inflammatory affections of the kidneys and their sequelæ in the following way: 1. Suppurative inflammation of the kidney and surrounding structures indicates the operation of nephrectomy in order that free exit may be given to the purulent and other inflammatory excretions, and that the focus of the disease may be thoroughly cleansed, and further extension of the suppuration to important parts, as, for example, the thoracic and abdominal cavities and the hip-joint, be thus prevented. In most cases the single lumbar incision, as was performed by Simon, will suffice, but when there has been extensive undermining of the peritoneum the formation of a large flap, as practised by Bardenheuer, is to be preferred, as such operation permits of ready access to all extensions of the main pus-containing cavity. 2. Ureteral fistula should always be treated by removal of the corresponding kidney, provided the surgeon can assure himself of the existence of a sound renal organ on the other side. Nephrectomy in such cases is indicated, not only on subjective grounds and when, for instance, the external flow of urine cannot be restrained by any apparatus and the patient is thus prevented from following his occupation and from enjoying a comfortable existence, but also on objective grounds, since, notwithstanding the utmost precautions, an old ureteral fistula may result in suppurative inflammation of the corresponding kidney and of the adjacent soft parts. 3. Nephrectomy performed under these last-mentioned conditions offers much less favorable prospects than in cases in which there is an absence of suppuration or of cicatricial adhesions. 4. There can be no doubt that, under equally favorable conditions, the transperitoneal method can be performed more rapidly and with greater ease than the extraperitoneal method of nephrectomy, and that the progress toward recovery is more speedy after the former operation. The transperitoneal method, however, is not applicable to every case, and should be reserved for those instances in which the mischief is confined within the capsule of the kidney, the extraperitoneal method being indicated when the suppurative process has involved the perirenal structures.—*Volkmann's Sammlung Klinische Vorträge.*

[1] Bull. de la Soc. Obstet. et Gynec. de Paris, January, 1891.

Syphilitic Disease of the Lungs.—Dr. Haslund distinguishes two forms of pulmonary syphilitic disease: 1. The diffuse form—an increase of the interstitial connective tissue. The affection always begins at the root of the lung and extends thence. 2. The gummatous form—one or many gummata scattered through the lung, except the apex, which is rarely affected. Both forms often coexist. The course of the disease is sometimes very rapid, death occurring in from two to six months. In other cases the disease causes no symptoms, and the presence of pulmonary disease may be discovered only at the autopsy. In the early stages there are no physical signs; later on, in some cases, dulness on percussion over the root of the lung is noticed, and inspiration becomes rough and sharp. Toward the end respiration acquires a cavernous character. Syphilitic lung disease is difficult to diagnosticate during life. The distinction from phthisis is difficult. The diagnostic points on which Professor Haslund relies are: 1. Absence of tubercle bacilli. 2. Localization; the apex is rarely affected in syphilis, almost always in tuberculosis. 3. The downward progress of the case is much more rapid in syphilis without appropriate treatment than in phthisis. 4. Absence of fever in the earlier part of the disease. 5. History of syphilis. 6. Results of antisyphilitic treatment. The prognosis is good if suitable treatment (mercury and iodide of potassium) be adopted in time. The disease is rare. Professor Haslund has, however, diagnosticated and successfully treated several cases.

Essential Spasm of the Cardiac Orifice of the Stomach.—Dr. Stefano Mircoli, in speaking of spasm of the cardiac orifice of the stomach, points out that the symptom is due not to stimulation, but to the want of it, since, if the vagus is divided the opening remains closed, unless the peripheral end of the cut nerve is artificially stimulated (*The British Medical Journal*). Schiff has shown that there is a special twig from the vagus which regulates the opening of the cardia. The cardia is richer in ganglia than the stomach itself, there being twelve in the former and only ten in the latter; this richness in nervous material almost entitles it to be called the "brain" of the stomach. The different parts of the cardiac orifice are functionally independent of each other, and one-half may be in a state of contraction while the other is relaxed. Mircoli relates three cases with the object of showing that in some persons, otherwise perfectly healthy, the susceptibility of the cardia to nervous impressions may be so marked as to amount to disease, and may be inherited as a diathesis. The first case was that of a man, aged fifty, who, in May, 1885, suffered from melæna; the bleeding recurred several times, and the patient died of exhaustion in the following September. Among other symptoms, intermittent spasm of the cardiac orifice was observed; when the patient was most weakened by loss of blood solid food did not reach the stomach, and even liquids partially failed to enter it. On passing a bougie, the œsophagus was found to be unobstructed, but firm resistance was encountered at the cardiac orifice; this sometimes yielded, but at other times could not be overcome. The constriction always vanished spontaneously in a few days. A son of this patient, aged twenty-four, went to bed one night in 1888 after a hearty supper; in

the morning he could not swallow, everything taken, whether solid or liquid, being stopped at a point corresponding to the cardia, and then thrown up. The spasm began to yield after some hours to energetic counter-irritation over the epigastrium and inunction with oil of hyoscyamus, and finally disappeared on the following day. A brother of this patient, aged twenty-seven, suffered from similar symptoms in 1890, under the mental stress caused by an impending lawsuit; the condition persisted more or less for more than a month, and finally ceased when he had won his case. Mircoli thinks that in persons of neurotic temperament such a condition might, by frequent repetition, lead to true stenosis of the cardiac orifice, and he quotes a private letter received by him in 1885, from the late Professor Loreta, in which that distinguished surgeon says: "Of the nine divulsions which I have performed for stenosis of the cardiac orifice, three were caused by contraction with subsequent fibrous degeneration. In the history of these patients (all of whom were women) hysteria was a prominent element; this was accompanied by dyspeptic phenomena, at first intermittent, but after some years becoming continuous and so preponderant as to induce agonies of hunger and thirst. There was no cause or circumstance which could lead one to conjecture sclerosis or cicatricial contraction. This is a chapter of pathology which requires to be illustrated and extended, so that medical practitioners may be forewarned against catarrhs, gastritis, cancer, etc., diseases which sometimes are merely secondary to purely mechanical conditions."

A Reliable Purgative Enema.—Dr. Charles P. Noble writes, in the *Medical News*, that the following enema has proved so reliable and satisfactory in his hands that he feels it is worthy of a brief note:

℞. Sulphate of magnesia..... ℥ ij.
Glycerine..... ℥ ij.
Oil of turpentine..... ℥ ss.
Water..... ℥ ij.
M. Label: "To be used as an enema."

To move the bowels after abdominal section, or after plastic operations on the female pelvic organs, it has been in constant use for many months. When used alone it has moved the bowels, as a rule, promptly, and has been equally effective when given as an adjuvant to some cathartic taken by the mouth. Prior to the employment of this formula I had used the simple enemata of glycerine, and of glycerine and turpentine, which are distinctly inferior to the one above recommended. The combined action of Epsom salts, turpentine, and glycerine is very effectual, not only in evacuating the rectum, but also in getting rid of flatus, which is the cause of much of the pain present after abdominal section. I have had the opportunity, upon two occasions, of testing the activity of this enema in cases of threatened obstruction of the bowels following operation. Other measures failing—including purgatives and large and small enemata—I have introduced a long, soft, tube up the rectum, and given this enema into the descending colon, with the happiest results. Now that the use of opium has been banished from the after-treatment of cases of abdominal section, this enema has, in my hand, become the great anodyne. When given through the rectal tube its employment promises much in cases of partial obstruction of the bowels, also in obstruction due to paralysis of the bowel. The enema is best given through a hard-rubber piston-syringe.

Physiology of the Gastric Glands.—According to Heidenhain, the delomorphous or parietal cells of the gastric glands—that is, the glands of the fundus—secrete or elaborate the hydrochloric acid of the gastric juice, while the adelomorphous or central cells secrete the pepsin. One of the chief arguments advanced in favor of this view rests on the experiments of Swiecicki, who asserted that in the œsophageal glands of the frog pepsin alone is formed, while only hydrochloric acid is formed in the stomach. Fränkel has submitted the statements of Swiecicki to a renewed test. He prepared the mucous membrane of (1) the œsophagus, and (2) the fundus of the stomach of ten frogs, and extracted each separately in two litres of water. To 18 c.c. of the watery extract of each there was added 2 c.c. of a one per cent. dilution of hydrochloric acid, and a small piece of fibrin. Both mixtures were kept at 37° C. for twenty-four hours; both extracts digested the fibrin. It would seem, therefore, that both the œsophagus and stomach of the frog contain pepsin, or rather, pepsinogen. This would tend to show that in the frog the delomorphous cells secrete both pepsin and acid, for fibrin is digested in the stomach when the secretion from the œsophagus is prevented from entering that organ. Fränkel found that the mucous membrane both of the stomach and œsophagus produced a mineral acid, for both gave the phloro glucin-vanillin reaction. Contejean finds that section of the vagi does not interfere with gastric digestion in the frog. Electrical stimulation of the peripheral end of the vagus, or of the central ends of the vagus or glosso-pharyngeal, causes a copious secretion of mucus. In the last case there is no secretion of mucus when the vagi are divided. Perhaps the result is due to a reflex secretion, the reflex centre being in the bulb, while the vagus is the efferent channel for the impulses affecting the secretory glands. In birds also it would appear that the vagus influences the secretion of the gastric juice. Oxenfeld finds that in birds (pigeons) stimulation of the peripheral end of the vagus is followed by a copious secretion of acid gastric juice. At the same time the stomach is forcibly contracted, and it might be assumed that the increased quantity of gastric juice was simply forced out of the glands by the concentration of the musculature of the stomach. Oxenfeld, however, is of opinion that this is not the true explanation, and he assumes that the vagus contains secretory fibres for the gastric glands.—*The British Medical Journal.*

Epidemic Jaundice.—Dr. Arthur Henning believes this disease to be caused by a specific virus. He has observed several outbreaks of it. In one family a healthy little boy of two and a half years fell sick, with the symptoms of slight gastro-duodenal catarrh. The liver was somewhat enlarged; he was restless and easily tired, and there were signs of some inflammation of the kidneys; jaundice was present. In a few days the general condition got better, but the yellowness of the skin and the pale color of the fæces continued some time longer. Enlargement of the spleen was now noticed. All these phenomena, however, disappeared after several days. Ten days afterward a little sister, aged three and a half years, was attacked by a similar train of symptoms, only in a more severe degree. She suffered from violent delirium and intense headache. Some days later a child three years of age, who lived on the next floor below, was seized with a similar illness; then the brother of the last-mentioned child, aged five years, became ill; and finally the parents of the first-mentioned two children—the illness in the mother's case brought on abortion. Details are given of several similar outbreaks of jaundice—*e.g.*, in one family mother, servant, and five children attacked, only the father and one child remaining healthy. A few deaths have been caused by this disease; it is especially dangerous in pregnancy and the puerperal state. Dr. Henning believes the epidemics he has observed in Königsberg are caused by the bad water of that town. He considers the malady to be a general disease affecting the whole organism, caused by a specific virus akin perhaps to the virus of malaria. The virus multiplies outside the body, and infects one or more persons at the same time, but is not transferred from patient to patient—*i.e.*, the disease is not contagious. It is to be distinguished from simple catarrhal jaundice, and from jaundice from obstruction, which are merely local diseases. For treatment he recommends large doses of calomel and muriatic acid, and irrigation of the large intestine; the diet should contain as little fat as possible.

MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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MOSQUITOES AS PREVENTIVE INOCULATORS.

WE referred recently to the curious method of conferring immunity against yellow fever employed by Dr. Carlos Finlay, of Havana, namely, causing healthy individuals to be stung by mosquitoes which had previously bitten those suffering from the fever. The experiments in this direction have been carried on now for about ten years, and the results would seem to show that this insect is a good attenuator of the yellow fever virus.

In the *American Journal of the Medical Sciences* for September, 1891, Dr. Finlay presents some statistics of his preventive inoculations by means of these insects which are interesting. He was fortunately able to obtain some useful comparative statistics from the fact that he had medical charge of two religious communities, the members of which are partially renewed almost every year by the arrival of new-comers from Spain to substitute others who have resided several years in Havana. Nearly every year he inoculated some of the new-comers, while others did not go through that ordeal. During the period 1883–1890, forty-nine of these new-comers were inoculated, and thirty-two were not. After deducting from the inoculated thirteen cases who had not been long enough in the country to permit any definite conclusion to be drawn from them, there remained thirty-three inoculated, and thirty-two not inoculated members of the same communities, having arrived in the same years, leading the same life, and exposed to the same chances of infection. Indeed, it would be difficult to find anywhere a better opportunity for comparing the results of any method of prophylaxis. Of the inoculated some had no febrile symptoms, either immediately after the inoculation or subsequently; others had a mild attack of fever, accompanied or not with albuminuria; and two had regular yellow fever, from which they recovered. Of the not inoculated, twenty-one either had a mild fever or escaped all illness, and eleven had yellow fever, five of them dying. Thus none of the inoculated died of yellow fever, whereas five (or fifteen and a half per cent.) of the non-inoculated did die of it. Of all the persons inoculated in and out of these communities, but one died of yellow fever.

From a study of these comparative results, and of the results obtained in other cases in which inoculations were practised by Drs. Finlay and Delgado, the author draws the following conclusions as to the value of his method:

1. The inoculations with one or two recently contaminated mosquitoes, in the manner practised, are free from danger, inasmuch as the numerous trials which have been made have produced at most (in about eighteen per cent. of our cases) a mild attack followed by immunity.

2. We must attribute to the influence of the inoculations with contaminated mosquitoes: *a*, The mild acclimation observed in ninety-four per cent. of our cases, whereas the same desirable result has only occurred, *cæteris paribus*, in sixty-five and a half per cent. of the non-inoculated; *b*, the reduction of cases of regular yellow fever to the proportion of six per cent. instead of nineteen per cent., and, *c*, that of fatal yellow fever to less than two per cent. instead of fifteen and a half per cent., one single death from yellow fever having occurred among the sixty-seven persons inoculated since 1881 until the present date.

3. The contaminated mosquitoes appear to lose, either partially or completely, their contamination after they have stung healthy subjects; whereas the contamination appears to become intensified by successive stings of the same insect on yellow fever patients.

4. The inoculations performed during the colder season should not be considered to afford sufficient protection, but should be repeated on the approach of the hot season.

INTOXICATED PHYSICIANS AND THE LAWS CONCERNING THEM.

HARD-drinking physicians, if there are any such in Georgia, will now have a disagreeable time of it, as a statute has been passed by the legislature of that State disqualifying any medical man from further practice who has once been convicted of drunkenness, and imposing a heavy penalty upon the man thus disqualified if he attempts to practise medicine again. It may not be known that we have also a law in New York on this subject, but it concerns itself with the drinking physician only in case he does harm to a patient while intoxicated, and he can otherwise drink as much as he likes, being subject only to the laws governing all citizens of whatever calling. The following is the New York statute: "A physician or surgeon, or person practising as such, who, being in a state of intoxication, administers any poison, drug, or medicine, or does any other act as a physician or surgeon to another person, by which the life of the latter is endangered or his health seriously affected, is guilty of a misdemeanor." Another section declares that if, under like circumstances, the patient's death results, the physician is guilty of manslaughter. The penalty imposed by the Georgians upon a drunken physician may perhaps not be too severe, but the passage of such a law by the legislature is in the nature of a deliberate insult to the physicians of that State.

SCIENTISTS AND MIND-READING.

IT may be interesting to learn that another distinguished exponent of the exact sciences, Professor Oliver J. Lodge, has gone over in a manner to occultism. Professor Lodge was president of the Mathematical and Physical Science Section of the British Association. He is

one of the foremost of English physicists; but he thinks there is something in telepathy. He says:

"Is it possible that an idea can be transferred from one person to another by a process such as we have not yet grown accustomed to, and know practically nothing about? In this case I have evidence, I assert that I have seen it done, and am perfectly convinced of the fact. Many others are satisfied of the truth of it, too. Why must we speak of it with bated breath, as of a thing of which we are ashamed?"

There is, we venture to say, no reason to be ashamed of the belief, but only of the reasons for holding it. The trouble has always been that telepathy cannot be demonstrated under such rigid conditions as to exclude all possible error. There are people who seem to think that by accumulating an enormous number of ghost stories one may finally prove that there are ghosts. But, in fact, what we want is simply one genuine ghost; then science will be satisfied. So with "telepathy."

ENFORCING SANITARY MEASURES ON STEAMSHIPS.

THE steamship companies carrying steerage passengers to this port have been notified by the Treasury Department that the Act of Congress, requiring a "certain allowance of cubic air-space" to each of these passengers, will hereafter be rigidly enforced, and the penalty provided for its violation will be inflicted.

It is time that something was done in the way of looking after the health of our future citizens, and forcing the conscienceless steamship companies to do as they are told. The English authorities do not enforce their own passenger act, perhaps because they are not concerned with the future of the emigrants that leave or pass through their country and seek a home in ours. In a letter on "Ship Sanitation," addressed to the United States Special Commission on Emigration, Dr. C. H. Leet cites many cases of deliberate violation, by two of the transatlantic lines, of even the simplest rules of hygiene, let alone the very reasonable sanitary requirements of the emigration laws of this country, and of the passenger acts of Great Britain. Furthermore, he shows how the managers of the companies referred to gag their surgeons and forbid them to give any information concerning sanitary matters on shipboard to the officers of the Board of Trade at Liverpool. Dr. Leet served as ship's surgeon for a number of years on the steamers of two lines running between this port and Liverpool, and is well known to many physicians in New York. He seems at first to have tried to shut his eyes to some of the more common abuses, knowing that his protests would be unheeded, and that he would be put ashore. But the evils became so great, and the disregard of the health not only of the steerage passengers, but of the ship's crew as well, became so brutal, that he was forced to cry out against it, and in crying lost his berth.

The evil, instead of growing less, has been getting worse, and this law concerning the allowance of air-space for each steerage passenger is persistently ignored by most of the Atlantic steamship companies. Many of them indeed crowd the passengers under decks in a way that they would not be allowed to crowd cattle. In the steerage of some of the ships that have come here this year there has been a disgraceful condition of things, which the officers of the ships were powerless to change, as they had to take all the passengers who were sent aboard, and had to dispose of them when once in the ship as best they could.

The only way these companies can be made to obey our laws is to enforce the penalties for disobedience. They are now much more careful than they were as to the class of passengers they take, knowing that they will have to carry back at their own expense all those whom our laws will not allow to land; and if we make them suffer in pocket for disregarding our sanitary regulations, they will be among the most active in seeing that these are strictly enforced.

THE CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

THE meeting of this Congress, which takes place in Washington next week, gives every promise of being very successful.

The completed programme, which has just been received, shows that fourteen special national associations will unite in scientific work and social enjoyment.

The general sessions of the Congress will be held in the afternoon, leaving the morning and evening for the work of the special associations. As between one hundred and fifty and two hundred papers are promised, it is evident that the quantity of work will at least be satisfactory.

THE STATE CHARITIES AID ASSOCIATION.

THE annual report of the State Charities Aid Association for the year 1890 contains many facts that are interesting to medical men, for the Association's field of work is as wide as it is beneficent in character. Much stress is laid naturally upon the success obtained last winter in passing a law which puts all the pauper insane in State institutions and under the care of State officials. By this law over two thousand insane, who had previously been confined in county poor-houses, will be placed in State hospitals under competent medical care. We regret to learn that there is expected to be an organized effort next winter to repeal or amend the law in question.

The Association is trying to secure a much-needed reform in the care of pauper and indigent epileptics and idiots.

For the former class it is proposed to establish a colony somewhat on the plan of that at Bielefeld, Hanover, and consisting of a farm, small buildings, larger buildings, a hospital, school-house, work-shops, farm buildings, and laboratory. There are already three hundred and thirty-four epileptics in the State's county poor-houses who would form a nucleus for such an establishment. As we have already pointed out, such a colony would certainly fill a very great want in the community. The question arises, however, whether the State ought to undertake the care of a certain class of sick persons who are not, like the insane and idiotic, legally its wards. The committee having the subject of hospitals in charge recommend separate custodial institutions for the unteachable and adult idiots. It is recommended also that

the different counties provide small cottage hospitals in the larger towns for the care of the pauper sick. At present such cases are as a rule miserably provided for in the poor-houses.

In reading over the report of the Association one cannot but be impressed with the enormous amount of intelligent and voluntary work done by its members. Too much credit can hardly be given for what has already been accomplished. It is a pleasure to find also that medical men hold so prominent a place numerically and otherwise in the membership.

THE ESSENTIAL, THE LIBERAL, AND THE TECHNICAL.

THE season is at hand when a good many physicians and their friends are debating whether the boy shall go to college or to a technical school, or shall go at once into business. To those who have children ambitious to enter a profession, the college problem is a serious one, for it means several years more of expense and several years delay in the help which the parent expects from his sons. There is still such a difference of opinion also as to what is really the best kind of preliminary education for medical students, that an article entitled "An Attempt to Determine the Ideal Preparatory Course of Studies for the Learned Professions," by Dr. Charles McIntire, naturally excites a special interest. Dr. McIntire, however, does not pretend to have solved the problem. He devotes himself chiefly to collecting the opinions of educational experts on the subject.

It is admitted that in educating a youth he must learn the "essentials" at school, liberal studies and those which train the mind at college, special and technical studies at the university. The mooted question is now, how to get in the liberal studies without making education too prolonged or too costly. The importance of such studies is universally admitted. The young man who passes from the "essentials" taught at school to the special and technical studies taught at the medical college is never really educated except through extra and special efforts of his own. The measures suggested for making a college course feasible to the medical student are: earlier preparation for college and special courses in the last year or two, by which the medical course can be shortened. It is possible also in many colleges for students to go through the four years' course in three years. In various ways it is, therefore, now being made more practicable for young men to graduate from liberal colleges at the age of twenty or twenty-one, with a year's work done on their medical course.

There is an increasing popularity of late years accruing to the scientific and technical schools as places for the training of medical students. Such institutions specially suit a certain class of young men, but they by no means furnish the best preliminary education for medical students. It has ever to be remembered that the medical art is the art of dealing with human nature more than with chemicals and physic, and the doctor who understands man is much greater than he who understands materia medica. It is on this ground that we have always urged the value of liberal studies over the technical studies in the preparing of young men for medicine.

News of the Week.

The Nomination of Candidates for Coroners takes place soon, and we understand that there are three vacancies. It is greatly to be hoped that Dr. William T. Jenkins will be one of the gentlemen nominated and elected. He has been coroners' physician for eight years, and has done his work faithfully and intelligently, so that he has thoroughly won the confidence of the profession of the city.

Mississippi Valley Medical Association.—This association will hold its seventeenth annual session at St. Louis, October 14th, 15th, and 16th.

American Rhinological Association.—The ninth annual meeting of this association will be held in Indianapolis, Ind., October 6th, 7th, and 8th.

Missouri Valley Medical Society.—The fourth annual meeting of the Medical Society of the Missouri Valley will be held at Council Bluffs, Ia., September 17th and 18th. The society has a membership of over three hundred.

Extravagant Hospital Administration.—The *Medical Press and Circular* for July 29th refers editorially to the King's College Hospital, London, as an example of "atrocious extravagance" in the conduct of hospital affairs. In the course of a parliamentary investigation the charge was made that this hospital had spent, during the past three years, at the rate of $600 for each bed maintained. The hospital authorities combated this statement by showing that a large sum, about $45,000, had been expended for permanent improvements, but admitted a cost for each bed of $470, of which not more than $84 reached the patient in the bed, the balance, or $386 nearly, being soaked up by secretaries and a multitude of indirect charges. One of the Dublin hospitals, the Cork Street Fever Hospital, long notorious for the monstrous disproportions of its outlay, runs the King's College Hospital a close race for the prize for wastefulness. It reports the gross cost of $595 for each bed, of which $440 represents establishment expenditure.—*N. Y. Medical Journal.*

The New Texas Medical College.—The State Board of Regents of the University of Texas, on the 27th ult., completed the election of the Faculty for the medical department of the State University. Dr. J. M. T. Fleming, of Baltimore, was elected Professor of Surgery, at a salary of $3,000 per annum; Dr. Edward Randall, Galveston, Professor of Materia Medica and Therapeutics, at a salary of $2,500; Dr. Allen J. Smith, Philadelphia, Professor of Pathology, Bacteriology, and Histology, at a salary of $2,000 per annum; Dr. A. G. Clopton, Jefferson, Professor of Physiology and Hygiene, at a salary of $3,000 per annum; Dr. William Keeler, Edinburgh, Scotland, Professor of Anatomy, at a salary of $2,500 per annum; Dr. Seth M. Morris, Austin, Professor of Chemistry, for one year, at a salary of $2,000 per annum, and Dr. George H. Lee, Demonstrator of Anatomy.—*St. Louis Globe-Democrat.*

Medical Students in France.—In the year 1890 there were 7,018 men and women studying medicine in France. Of this number 702 were foreigners.

The Illinois Army and Navy Medical Association was organized at Springfield, Ill., June 26, 1890, with Dr. Hosmer A. Johnson as President, and Dr. John H. Rauch as Secretary. The objects of the society are, the promotion of social, historical, and medical subjects connected with the late war. All reputable physicians now living in Illinois, whether in practice or not, who served in the army or navy during the late war, and all who were surgeons or acting assistant surgeons, who were with Illinois troops, and are now non-residents of the State, are eligible to membership. At the second meeting of the Association, held in Springfield, May 18 and 19, 1891, Dr. John H. Rauch was elected President, and Dr. Edward P. Bartlett, of Springfield, was elected Secretary. The Association adjourned to meet in Chicago at the time of the unveiling of the Grant monument. This adjourned meeting will be held at the Grand Pacific Hotel, Chicago, October 7 and 8, 1891.

Dr. James Watt died at his home in Brooklyn, on September 11th, at the age of forty-eight. He was graduated in medicine from the University of Edinburgh and also from the Long Island College Hospital. He served as surgeon during the war, and afterward returned to practise in Brooklyn.

Dr. David Humphreys Storer died in Boston, on September 12th, at the age of eighty-seven. He was born in Portland, Me., March 26, 1804, and was graduated in medicine from Bowdoin in 1822. He was for many years dean and also professor of legal medicine and obstetrics in the Harvard Medical School. He was president of the American Medical Society in 1866, a member of the American Academy of Arts and Sciences, and of the New England Genealogical Society. Dr. Storer was an enthusiastic ichthyologist, and had written a work on the fishes of North America. He was a long-time friend of Agassiz, and was jointly engaged in natural history pursuits with him.

New York State Society of Railway Surgeons.—The first meeting of this Society will be held in the parlors of the Hotel Bensonhurst, at Bensonhurst-by-the-Sea, October 27, 1891. Programmes may be obtained by addressing Dr. George Chaffee, 201 Forty-seventh Street, Brooklyn.

Dr. Peter Pineo died in West Somerville, Mass., on September 11th, aged sixty-six. He was born in Cornwallis, N. S., on March 6, 1825, and was graduated in medicine from Bowdoin in 1847. At the outbreak of the Civil War he went out as surgeon of the Ninth Massachusetts. He was successively commissioned Brigade Surgeon of United States Volunteers, Medical Director of the First Army Corps, and Lieutenant-Colonel and Medical Inspector of the United States Army. The later years of his life were passed in and near Boston.

Dr. Hermann v. Helmholtz celebrated the seventieth anniversary of his birth on August 31st.

A Young Drunkard.—A boy, fifteen years of age, was arrested a few days ago for drunkenness and committed to an institution. He has been several times arrested for the same offence, and was once under treatment at Bellevue Hospital for delirium tremens.

Alphabetical Preference.—A select few of the members of the Congress of Hygiene and Demography were invited, so says *Le Mercredi Médical*, to visit the Queen at the Isle of Wight, and went over to Osborne in a body. After luncheon they were marshalled in line for presentation to Her Majesty, the Germans being first, then the Austrians, and the other nationalities behind them in irregular order. Thereupon the Frenchmen grew indignant, and for a time serious international complications were feared, the trouble being averted only by the presence of mind of a Belgian savant, who suggested to those who had the charge of the arrangements that the members be placed in line according to their nationality, in alphabetical order. This was done, and then the threatening clouds floated off in the direction of the French fleet, Her Majesty smiled graciously on all alike, and Science assumed once more a cosmopolitan character.

Dr. Safford Reynolds, of Granville, N. Y., died suddenly, on September 8th, of heart disease, at Sandy Hill.

A Death under Ether occurred in this city on September 9th. The patient was a man, fifty years of age, who was to be operated upon for removal of a tumor in the side. He was examined previous to the administration of the ether, and presented no symptoms of heart trouble.

The Consumption of Liquor in Germany has assumed such proportions as to alarm the authorities and lead them to the adoption of legislative measures looking to regulation of its sale. The number of cases of alcoholism treated in public institutions in Germany increased from 4,272 in 1877, to 10,360 in 1885. One of the measures proposed for combating this evil is the encouragement of beer drinking by a reduction in the price of this beverage.

The Treatment of a Case of Lupus by tuberculin, which has been carried out continuously by the surgeons of the Marine Hospital Service since February 11th, has at last been abandoned. The medical officer in command at Cincinnati, under date of August 20th, reported that the destruction of tissue by advancing ulceration and sloughing was more marked in the last fortnight of treatment than at any time during the entire period of the existence of the disease, in view of which it was deemed advisable to abandon the use of tuberculin.

Sulfaminol is the name of the latest antiseptic brought out from the German chemical laboratories. It is said to be inodorous and non-irritating.

Woman Physicians are opening for themselves a way in staid old Portugal, four women having passed their final medical examination there this year, two at Lisbon and two at Oporto. Last year one was graduated at Lisbon.

The German Anthropological Congress will meet at Ulm in 1892.

A Bacteriological Institute is to be established in St. Petersburg, under the charge of Dr. Gabrylowicz.

Dr. A. D. Rockwell has resigned the chair of Electrotherapeutics at the New York Post-Graduate School.

Dr. George B. Loring, ex-Commissioner of Agriculture, and ex-Minister to Portugal, died at his home in Salem, Mass., on September 14th. Dr. Loring was born in North Andover, Mass., November 8, 1817. He was educated in Franklin Academy of that town and at Harvard College, graduating from the Harvard Medical School in 1842. He was appointed surgeon to the Chelsea Marine Hospital soon after graduation, and served there a number of years. In 1849 he was made United States Commissioner to revise the Federal hospital system. From 1853 to 1857 he was postmaster of Salem. About this time he began to devote himself to practical and scientific agriculture, and was an active member of the New England Agricultural Society for many years, becoming its president in 1864. He gradually retired from medical work and became prominent in public affairs. The cause of his death was dysentery.

Dr. Thomas Magill died on Monday, September 14th, at his home in Freeport, Pa., aged sixty-four. He was born in Westmoreland County in 1827, and was graduated from Jefferson Medical College in 1854.

Annales d'Oculistique.—This well-known ophthalmological journal, edited for many years by the late Professor Warlmont, has, since his death, passed into the editorial hands of Drs. Valude and Sulzer, who have transferred the office of publication from Brussels to Paris. The new management has doubled the size of the journal and promises to increase its usefulness. Dr. George P. Stevens, of New York, is the American collaborator.

A New Hospital in Jerusalem was recently established by the Turkish authorities, but when it came to form the *personnel* of the institution a peculiar difficulty presented itself. The patients would be of all races and religions in proportion to the population of the city, and it was feared that partiality would be shown by the attendants to the patients of their own faith. The majority of the population is Hebrew, the Mohammedans coming next, while the Christians are in a minority. It was thought better, therefore, to select the nurses from the followers of the Christian religion, and consequently the hospital was placed in charge of Sisters of Charity.

Dr. Allen L. Thompson, for nearly fifty years a practising physician at Sandy Creek, N. Y., and the senior member of the Oswego County Medical Society, died during the last week of August, at the age of eighty. He leaves a wife and several children. Among his sons are Dr. Granville S. Thompson, of Washington, D. C., and Dr. Allen R. Thompson, of Troy, N. Y.

Hydrophobia and Syntax.—The good citizens of Connecticut have been considerably alarmed at the prevalence of hydrophobia among the dogs of the State, and many towns have adopted ordinances concerning muzzling or chaining the animals. The selectmen of Unionville seem to have been more than ordinarily frightened, if we may judge from this remarkable notice which they caused to be inserted in the local journal: "By notice elsewhere it will be seen that any persons owning a dog in the town of Farmington are notified that they must be properly muzzled."

The Population of Austria-Hungary increased during the last ten years by 4,781,000. The present population of Austria is 23,896,000, and of Hungary 17,445,000. The increase of population was three per cent. larger in Hungary than in Austria, though Austria is still much the more densely populated. Vienna has a population of 1,365,000.

Taking Proper Precautions.—The *Times and Register* says that New York druggists are very cautious in the sale of poisons. A Philadelphia professor recently found it impossible to obtain a half-ounce of chloroform to remove a grease-spot from his coat until he had written a prescription that would pass the pharmacist's scrutiny. That was eminently proper, and the druggist knew his business. He didn't know to what extremities the poor man might run when he found his vacation in the metropolis nearing its end.

A Rather Useless Ambulance Service is that of London, if we may judge from what is stated in an account of a recent runaway accident. The driver was thrown out of the vehicle and very severely injured, and a messenger was sent out to the nearest police station to call an ambulance. Here he was told that it would not be sent unless it was paid for, and so considerable delay was occasioned, the sufferer meanwhile lying in the street. An ambulance service which will not serve until the cash is in hand, may be of use in giving invalids an airing in the park on pleasant days, but will hardly do for emergencies.

Cancer-grafting. — The cancer-grafting matter has been the subject of active discussion in the European press. One of the assistants of Professor Hahn, writing in a Berlin medical paper, gives the following account of one of the operations: "The case was that of a woman who had visited the hospital a second time, owing to a relapse after having her left breast excised on account of a cancer. The disease manifested itself in such a way that not one of the customary operations was possible. Under the assumption that a partial covering of the cancerous parts with healthy skin would mitigate the pain, Professor Hahn proposed a transplantation, and explained the matter to her, to which, after explanations, she willingly consented. The operation was thereupon performed. Three healthy pieces of skin were transplanted to parts from which the cancerous skin had been removed, and then the pieces of cancerous skin were placed upon the parts whence the healthy flesh had been taken. The healthy skin thrived on the new ground, but the knots of the diseased skin grew larger after two months and a half. On the death of the patient, the knots had reached the size of cherry-stones. Death followed in the natural course, and the transplantation did not hasten it, as the patient felt better after the operation, and did not again complain of pain. On the basis of this experience Professor Hahn expressed the view before the Berlin Surgical Congress, in 1889, that, firstly, cancerous wounds could be healed by the grafting of healthy skin upon them, and, secondly, that cancer is transmissible by the employment of suitable material on a suitable ground." The accused Berlin surgeons were, after a full and careful investigation of the circumstances of the case, acquitted of all unprofessional conduct in the carrying out of their experiments.

Society Reports.

THE INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

Held in London, August 10, 11, 12, 13, 14, 15, *and* 17, 1891.

(From our Special Correspondent.)

(Continued from page 282.)

SECTION ON PREVENTIVE MEDICINE.

THIRD DAY, WEDNESDAY, AUGUST 12TH.

Diphtheria.—A discussion on this subject was opened by DR. SEATON, who said that the cases admitted into the hospitals of the Metropolitan Asylums Board came from all parts of London. He mentioned the case of a village near London—quite free from diphtheria—in which the construction of a new system of sewerage was followed by a severe outbreak; he thought the disturbance of the soil might have led to the freeing of the germs. He said there was a strong ground for urging on Government the necessity for a systematic inquiry into the causes of the disease.

DR. SCHREVENS, of Tournai, said the true origin and the cause of the spread of diphtheria could only be arrived at by examining carefully the results in different countries. In Belgium he had observed that diphtheria and typhoid fever ran concurrently—where one was severe, so was the other, and *vice versa*—but diagrams constructed from the statistical returns showed one exception, viz., Eastern Flanders. One was led to believe that the connexion between these two diseases must be their origin from fecal matter, and the bacteriological researches of Löffler and Eberth agreed with this view. The exception in the case of Eastern Flanders also confirmed this, for the soil here was so humid that it was easily washed clean from all impurities.

DR. HEWITT, of Minnesota, said diphtheria made its appearance in Minnesota about 1860, and was now the commonest cause of death but two, viz., infantile diarrhœa and tuberculosis. Diphtheria started among the families settled on the banks of the great streams, and for some time remained a family disease, but later it spread to the higher plains, when the increasing business of the country led to increased intercourse. It was at first confused with ordinary tonsillitis and with scarlatina anginosa. Dr. Hewitt drew the following conclusions from the information he had been able to collect, viz.: 1. That from twenty to thirty years of age women were more liable than men—a fact which he accounted for by the contagiousness of the disease, and women being generally employed as nurses. 2. That forty-four per cent. of all cases occurred at or under five years of age.

Diphtheria in Massachusetts.—DR. ABBOTT, of Boston, read an elaborate paper on this subject, at the close of which he drew the following conclusions:

1. That diphtheria is an eminently contagious disease. 2. That it is infectious not only by direct exposure of the sick to the well, but also through indirect media, such as clothing and other articles which have come in contact with the sick. 3. That the certainty of infection is not as great as in the case of some of the other infectious diseases, notably small-pox and scarlet fever. 4. That overcrowding, faulty ventilation, and filthy condition of tenements favors its spread. 5. That the influence of defective plumbing is not proven. 6. That its transmission through public and private water-supplies is not proven. 7. That its propagation is favored by soil-moisture, damp cellars, and general dampness of houses. 8. That the poison may remain inactive in houses for a long period.

DR. ADAMS, of Maidstone, presented a communication on "The Relationship between the Occurrence of Diphtheria and the Movement of the Subsoil Water."

A Local Examination of the Difference in Susceptibility to Diphtheria Between Old and New Residents.—MR. CHARLES PAGET, of Salford, then read a paper with this title. As the result of his inquiries, Mr. Paget said he found that as the people of a district were more subjected to the continuous influence of their insanitary surroundings, they were found less fitted to resist the infection of this disease. A shorter average period of residence elapsed before an attack of diphtheria was observed where the mortality rate was highest, and *vice versa*. The relative incidence of diphtheria during an epidemic period, in respect of length of residence, was thus dependent to no small extent on general sanitary circumstances.

Professor D'Espine, of Geneva, Dr. Jaussens, of Brussels, and Dr. Escherich, of Graz, continued the discussion, and the opinion was expressed that local disinfecting measures were of great use in preventing the spread of the disease.

DR. THURSFIELD, of Shrewsbury, said that he had long ago arrived at the conclusion that the ordinarily accepted ideas as to the etiology of the disease were one-sided and misleading. He believed that the failure of sanitary improvements to stop the increase of diphtheria was to be attributed to the dissemination of the disease by very mild, medically unattended, and therefore not notified, cases—generally acting through school agency. More importance should be attached to the fact that the chief influence favoring the incidence of the disease was personal susceptibility. He had, some years ago, in published papers, taken the view expressed by Dr. Hewitt, who laid considerable stress on the connection of the disease with damp houses. He had met with cases in which a very prolonged period of infection had been observed, and thought these might be explained by the fact that relapses might occur in diphtheria.

DR. TRIPE, of Hackney, said that, as the result of thirty-five years' experience, he had noticed that good drainage had but little effect in diminishing the virulence and extent of epidemics of diphtheria. The best method of preventing its spread was by destroying by fire all rags infected by secretions. He believed the disease was spread by contact, and had found that closing the playground was as effective as closing the school.

Dr. Günther, of Dresden, and Dr. Hubert also spoke, and a resolution was passed by the Section to the effect that it was extremely expedient that European governments should make a comprehensive and systematic inquiry into the causes of diphtheria.

SECTION ON BACTERIOLOGY.

Immunity.—A discussion on this subject was opened by DR. ROUX, of the Pasteur Institute, Paris. He said that the great amount of work which had been done on the subject had one point in common, viz., the attenuation of virus and preventive inoculation, the two subjects with which Pasteur's name would be associated for all time. With the single exception of vaccination, the only method of conferring immunity against any disease was by the inoculation of the virus of the disease. Pasteur had added the less dangerous method of preventive inoculation by means of an attenuated virus, to which he had applied the term vaccination. The term "attenuated" virus ought to be reserved for virus weakened without being attenuated, *e.g.*, by artificially lowering the vitality of the organism for producing it. Two methods of attenuation had been described by Pasteur, viz., 1, the prolonged exposure of a culture to the air at a suitable temperature; and 2, the passage of the organisms through the bodies of different species of animals. Other methods had also been employed. In any case it was necessary that the attenuation should be effected slowly and gradually, rapid attenuation rendered a virus altogether inactive without impressing on it any hereditary weakness. In whatever way the virus was prepared, it must, in order to confer immunity, be brought

into direct contact with the tissues of the animal. Dr. Roux then discussed the theory of phagocytosis, associated with the name of Metschnikoff. Phagocytosis, he remarked, only occurred in refractory animals; in animals susceptible to the disease it was either not to be observed or was incomplete. He then went on to consider the questions whether immunity was the consequence of this power of the cells to include the virulent microbes, or whether immunity might not be due to the absorption of the virus by the cells. Numerous observations showed that the microbes contained within the phagocytes were not degenerated, but were in a condition of full activity. Another demonstration of the importance of the action of the phagocytes was afforded by the fact that even in refractory animals the microbes were found to increase when kept out of the reach of the leucocytes. Thus, if a rabbit were inoculated in the anterior chamber of the eye, where there were no cells, the bacteria grew freely, and their development was only checked when the leucocytes had after a time migrated in large numbers and began to include the microbes. Phagocytosis was thus a very general phenomenon, and one which was very efficacious in checking the advance of the organisms; when it failed the individual succumbed to the virulence of the bacteria. What attracted the cells toward the microbes, and why were the leucocytes, which in refractory animals destroyed the microbes, incapable of seizing upon them in susceptible animals? Metschnikoff propounded his theory in 1883—a theory which rested on two assumptions, viz., 1, that the cells were attracted to the microbes in virtue of a special sensibility which they manifested toward all foreign bodies in the tissues; 2, that this power of seizing upon the virulent microbes in immune animals originated in a habit formed during the earlier struggle with the attenuated virus with which the animal had been formerly inoculated. These preferences of the leucocytes might be more readily explained by assuming that they had a special chemical property analogous to that possessed by the zoösperms of the myxomycetes, viz., that they were attracted by certain bodies and repelled by others. MM. Massaert and Bardet had proved that the products of the microbes exerted a very marked chemical action on the phagocytes. It was at the commencement of the disease that the critical struggle took place; interference on the part of the leucocytes at a later period would be useless, since the microbes would have produced enough poison to paralyze their activity. The theory propounded by Metschnikoff did not exclude the possibility of there being other means of protecting the organism, but it affirmed that phagocytosis had a wider sphere of action and was more efficacious than any other.

Dr. Hans Buchner read a paper on the same subject. He said that down to the present time no general theory of immunity had been formulated. By congenital immunity was meant something specific, dependent on the specific physiological properties, on the one hand of the generating factors of disease, and on the other of the animal body or its individual organs and tissues. With regard to acquired immunity, the experimental conditions of its production were known, but the substance producing the immunity was still unknown. Toxins and toxalbumins must be rejected, also the other metabolic products of bacteria; there remained, therefore, only the specific albuminous substances formed by bacteria, viz., the bacteriproteines. There were three conceptions with regard to the origin of immunity: 1, Want of nutritive material in the tissues and juices, whereby the bacteria were destroyed; 2, phagocytosis; 3, prophylactic substances in the animal tissue-juices. The protective substances were probably albuminous bodies of very unstable composition, and Dr. Buchner proposed the name "alexins" for these bodies.

Mr. Hankin also read a paper. He said the discovery of the bacteria-killing power of blood-serum had led to the view that immunity was caused by a bactericidal action exerted by the blood and lymph of an immune animal. Buchner's hypothesis that this bactericidal power was due to a remnant of "vitality," was unnecessary. He had shown that this power was due to the presence of certain bacteria-killing bodies to which the name "defensive proteids" had been given. That these substances did really play a part in the phenomena of immunity was made probable by the following considerations: 1. While the defensive proteid of the rat could be used to protect mice against virulent anthrax, the defensive proteid of an animal susceptible to this disease possessed a far feebler bacteria-killing power, and could not be so used. 2. By feeding wild rats on bread and water they could be rendered susceptible to anthrax, and at the same time their defensive proteid diminished in amount. 3. Very young rats, which were known to be susceptible to anthrax, contained only traces of the defensive proteid. He proposed the following physiological classification of defensive proteids: 1, Sozins (defensive proteids present in the normal animal); 2, phylaxins (defensive proteids present in artificially immune animals). Each of these groups was divisible into two subgroups, viz., myco-sozins, toxo-sozins, and myco-phylaxins, toxo phylaxins—the myco group comprising proteids which acted by killing the microbes, and the toxo group those which acted by destroying microbic products. Mr. Hankin suggested that possibly defensive proteids were the weapons used by the phagocytes in their conflict with the microbes.

Professor Emmerich, of Munich, said bactericides were probably intermediate products of decomposition, a stage in the passing of albumin into fat. Hence it was probable that the blood and tissues of immune animals, which contained matter energetically poisonous to bacteria, must also act as a remedial agent in infective maladies, if injected subcutaneously. This conclusion had been recognized experimentally in two infectious maladies, viz., swine erysipelas and croupous pneumonia.

Mr. Adami, of Cambridge, said the bacteriological world was at present divided into two opposed camps, viz., those who held that microbes within the system were destroyed by the agency of the living cells, and those who held that the function of microbic destruction was performed by the blood-serum and body fluids in general. Any observer could not fail to be struck with the prevalence of phagocytosis, and it was quite possible to accept both views.

Dr. Klein remarked that ordinary frogs and rats were insusceptible to anthrax, but these animals had been made susceptible thereto by a variety of means, which seemed to indicate that there were certain chemical conditions at work.

Dr. Metschnikoff then spoke. Messrs. Behring and Kitasato, he said, had discovered the bactericidal power of the serum of guinea-pigs inoculated against the vibrio Metschnikovii, and had shown that whereas this vibrio developed readily in the serum of guinea-pigs which were susceptible to the malady after its being in the body from three to five hours, it was destroyed in the body of the inoculated guinea-pig; the serum of the inoculated guinea-pig killed the vibrio in a very short time, whereas in the serum of a susceptible guinea-pig the vibrios developed in great numbers. Animals completely inoculated against infection were as susceptible to toxic doses of sterilized cultures as animals not inoculated at all. The inoculated guinea-pigs died after the same dose as those not inoculated, and the inflammatory and febrile phenomena were the same. In the septicæmia of guinea-pigs the phagocytes had the most important action of all the immunity factors. The bactericidal power of the serum, remarkable as it was, did not confer immunity. Behring himself had admitted the insufficiency of the theory founded on the microbicidal power of the body fluids As proved by Messrs Vaillart and Vincent, the animals which were subject to tetanus were already naturally refractory to the microbe. In this immunity from the microbe it was the phagocytes which played the principal part.

Dr. Wood described the protective influence as probably "a specific memory of the cells" which must be acquired gradually, and Professor Babes thought the protective substance was probably of the nature of albumose as shown by precipitation experiments.

SECTION ON THE RELATION OF THE DISEASES OF ANIMALS TO THOSE OF MAN.

Infectious Udder Disease of the Cow in Relation to Epidemic Diseases in the Human Subject.—Dr. Klein introduced a discussion on this subject. He said that in several epidemics of scarlet fever brought about by milk, Mr. Power had established that the infectiveness of milk was not due to contagion from a human source, but that probably a pathological condition of milch cows, undiscovered before 1885, played a prominent part in giving to their milk the power to produce scarlet fever in the human subject. Dr. Klein then referred to three epidemics of scarlet fever referrible to cow disease. Another epidemic disease referrible to cow disease was the so-called "Edinburgh" disease. Diphtheria was also traceable to cows. Dr. Klein expounded his views on this subject at some length, and was followed by Mr. Armstrong, Medical Officer of Health for Newcastle, Dr. Turner, M. O. H. for East Staffordshire, and Dr. Bostock, M. O. H. for Birmingham, who narrated examples of outbreaks of disease caused by milk.

Professor Crookshank then spoke, and took the opposite view, one which he has previously put forward strongly in opposition to the theory supported by Dr. Klein, viz., that there was no evidence in support of the theory that these specific diseases in the human subject ever arose from eruptions or skin diseases of the cow. Professor Crookshank gave an account of some investigations on the subject which he had conducted for the Veterinary Department of the Board of Agriculture.

Dr. Ostertag, of Stuttgart, thought scarlet fever was not communicable from man to animals. Loeffler had failed to produce the disease in the cow by inoculation.

Mr. W. Hunting, F.R.C.V.S., and Dr. W. J. Collins spoke against Dr. Klein's views.

Professor Chauveau, of Paris, said that some years ago he had endeavored to transmit the small-pox virus to animals, but had failed. Since then, however, he had been more successful, and had found himself able in every case to communicate the small-pox virus to bovine animals, but he had never succeeded in transforming this small-pox virus into vaccine.

Infection of Meat, Milk, and Other Comestibles.—Dr. Ballard read a paper with this title, and after discussing the subject very fully drew the following practical conclusions: That if we eat bacon or ham, cold or warm, it is a proper precaution to avoid them if not duly cooked throughout. The grand precaution of all was the very commonplace one signified by the word cleanliness. Every factory where pork was converted into brawn, or hams, ought to be so arranged that light and a draught of air could penetrate everywhere; there should be no corners where dirt could lodge and micro-organisms be cultivated; the rise of ground air should be obviated by cement under the floor, and the place should be kept scrupulously clean. Pantries, etc., should be similarly cared for.

The Infection of Meat and Milk.—Dr. Victor C. Vaughan, of the United States Army, read a paper on this subject. He said such infection might be caused in any one of three ways, viz.: 1, From a diseased condition of the animal from which these foods were obtained; 2, from the inoculation of these foods with specific pathogenic micro-organisms outside the body of the animal from which they were derived; 3, meat and milk might be infected with saprophytic toxicogenic bacteria. The author discussed the subject under these heads, and also remarked that it was not necessary for food to be infected with some specific micro-organism before it could be rendered unfit for food. As an example, a case was mentioned in which milk caused vomiting and purging; it had stood for two hours in a very filthy atmosphere.

Professor Blanchard, of Paris, Professor Brown, and Mr. Fleming, F.R.C.V.S., joined in the discussion.

SECTION ON INFANCY, CHILDHOOD, AND SCHOOL LIFE.

Mr. Diggle gave his presidential address, the chair being meanwhile occupied by Dr. Jacobi, of New York.

Overwork in Schools.—Dr. Leo Burgerstein read a paper in which he laid down the following propositions: 1, That it was desirable that the question of mental overpressure should be investigated by exact experimental methods; 2, that in the meantime school lessons should generally not last longer than three-quarters of an hour. These were subsequently carried as resolutions.

Exercise in School.—Mr. George White, Chairman of the Committee on Physical Education of the School Board for London, read a paper on "Physical Education," which was illustrated by a number of exercises performed by children from a Board School.

Dr. Brosnan read a paper on the same subject, and a discussion followed, after which resolutions to the following effect were carried: That the hours of home work for children in schools should be restricted; that ample physical recreation be carried out; that in the interval between the exercises the body should be properly rested.

The Value of Hygiene to Women.—Dr. Schofield read a paper on this subject, and at the close of it proposed the following resolution, which was carried unanimously, viz.: "That this Congress hereby warmly advocates the instruction of girls and women in personal and domestic hygiene as an integral part of their education."

SECTION ON CHEMISTRY AND PHYSICS IN RELATION TO HYGIENE.

The Chemical Treatment of Sewage was the title of a paper by Dr. Thresh, in which he gave an account of the various chemical methods employed. With reference to the electrical treatment of sewage, he said that an extended series of experiments on a much larger scale would be necessary to convince the sceptical that this was other than a roundabout way of producing a soluble iron salt to act as a precipitating agent.

Dr. Alfred Carpenter spoke in favor of sewage farms, and several speakers supported his views. At the close of the discussion the following resolution was proposed by the President, Sir Henry Roscoe, and carried, with some dissentients: "That in the opinion of this meeting the best yet known method of disposing of the sewage of towns is that of purification and utilization on the land."

SECTION ON NAVAL AND MILITARY HYGIENE.

Dietary Scales in Connection with the Health of Seamen.—Dr. W. Spooner, in opening the discussion of this subject, said the ordinary dietary scales were not fitted to preserve health. They were too monotonous, had too much salt meat, not enough vegetables, and the proportion of different ingredients was not correct. Preserved meat should replace salt meat, and vegetables should be added. On American ships potatoes were always given. Owing to too much meat the nitrogenous ingredients in the present scale were in excess; the saving effected by reducing the quantity of meat might be expended on other articles. If a proper dietary scale were made compulsory, scurvy would in a short time be eradicated.

Scurvy.—Dr. Rae, F.R.S., narrated his Arctic ex-

periences of scurvy. He was surgeon to the Hudson Bay Company's ship Prince of Wales in 1833–34, when he was twenty years of age. During two winters in the Arctic regions his party lived practically without vegetables, but their provisions were fresh, and all killed by themselves. The Eskimos used very largely the contents of the deer's stomach in the winter as a vegetable, cutting off a piece and eating it as if it were bread. He strongly recommended cranberries as part of the ration, both in the navy and in the mercantile marine. They were easily preserved with a little sugar. When cranberries were found in the Arctic regions improvement began in all his scurvy patients.

DR. COLLINGRIDGE said there could be no question as to the inefficiency of the diet scale, and even this was not obtained at its paper value.

MR. SWANSTON said the dietary scale was not at present compulsory, and power would have to be given by Parliament before the Board of Trade could force a scale upon the Mercantile Marine.

SECTION ON STATE HYGIENE.

State Control in Reference to the Homes of the Working Classes.—Papers were read on this subject by Dr. Elgin Gould, of Washington, Mr. John Hamer, Dr. Theodore Thomson, Mr. G. M. Burroughs, and one by Mr. Henry Rutherford. An animated discussion followed, in which most of the speakers expressed themselves in favor of State control, though some objections were raised.

DR. ELGIN GOULD, in replying, said that most of the difficulties mentioned had been solved in the United States, and suggested a study of the sanitary legislation of the city and State of New York.

DR. DANFORD THOMAS then read a paper on "State Control of the Sale of Poisons." At the close of the discussion on this paper the following resolution was proposed and carried: "That in the opinion of the International Congress of Hygiene and Demography it is essential, in the public interests, that the existing law regulating the sale of poisons should be amended, and greater restriction placed on the sale of poisons, and this especially in Great Britain and her Colonies."

Division of Demography.—The first paper read in the third day's session was on "The Temporary Migration of Labor," by Mr. Ravenstein. This was followed by one by M. Levasseur on "Migration within France." A discussion on "The Suitability of Tropical Highlands for European Settlement" was introduced by Dr. Felkin, and papers read on the subject by Surgeon-General Sir William Moore, Dr. Van der Burg, and Mr. Clements Markham.

DR. VAN DER BURG concluded that the colonization of tropical highlands was physiologically possible, but that field labors would have to be excluded, and that such colonization was not possible for economic reasons.

MR. FOX read a letter from Dr. Giles, written in India, in which Dr. Giles ridiculed the notion that there was any marked difference between English children brought up in India and those brought up in England.

PROFESSOR STOKVIS, of Amsterdam, denied that there was such a disease as tropical anæmia.

SURGEON-GENERAL EWART thought there was no chance of elevated tropical regions ever becoming colonized by true Europeans.

Mr. Haviland read a paper on "The Influence of Clays and Limestones on Medical Geography," and MR. WILLIAM TAPLEY one on "The Influence of Geology on Health and the Districts of Disease." At the close of the latter, SIR HENRY ACLAND made a few remarks on the difficulty of the subject. He suggested that the greater prevalence of phthisis on damp soils might be due to the bacillus tuberculosis requiring such soils for their life and growth, so that geographical conditions would only in a secondary manner influence the prevalence of phthisis.

FOURTH DAY, THURSDAY, AUGUST 13TH.

SECTION ON PREVENTIVE MEDICINE.

The Use and Abuse of Alcohol.—SIR DYCE DUCKWORTH said he felt he approached the subject in a proper spirit in one way, for he was temperate in his views on it. He maintained that alcohol was not an unmixed evil, and remarked that there were other forms of excess, so that we might as well talk of abolishing bread-and-butter as alcohol. He believed the abuse of alcohol was less prevalent than formerly. There was no evidence to show that the moderate use of alcohol was injurious, but the question at once arose, what was moderation? In his opinion from one ounce to one ounce and a-half of alcohol per day—in whatever form taken—was sufficient for an adult (children required none). This amount should be taken with a meal, and preferably when work was done. If the use of alcohol to this extent were not harmful, it was actually beneficial. Turning to the question of misuse, he expressed himself in favor of a certain amount of local option. He classed the examples of chronic drunkenness under two heads: 1. The foolish, callous, vicious drunkard. 2. The victim of inherited, or, in some cases, acquired nervous disease. Physicians alone could discriminate between the two classes, but, having done so, the treatment of the second class should be medical. But the first class should be stringently treated.

PROFESSOR WESTERGAARD, of Copenhagen, then read a paper on "The Relation of Alcoholism to Public Health and the Methods to be Adopted for its Prevention." He disapproved of Maine laws and of local option, but thought the high license system was more effective. He considered a limitation of the hours was quite necessary, and pointed out that in Norway the sale of spirits was forbidden from Saturday afternoon till Monday morning.

M. MILLIET, of Berne, said that from the scientific stand-point the State had no right to interfere, and from the practical stand point it had no power to do so.

DR. NORMAN KERR spoke in favor of total abstinence.

SIR JOSEPH FAYRER said he was no advocate of total abstinence, but he held that principles of temperance should be most strongly inculcated and form part of every child's education and training.

Several speakers joined in the discussion, which was brought to a close by SIR V. K. BARRINGTON, who spoke of the connection between drunkenness, lunacy, and idiocy, and strongly upheld the Norwegian system, which had transformed that country from the most drunken to the most sober in Europe.

SECTION ON BACTERIOLOGY.

Tuberculosis.—A discussion on tuberculosis was introduced by DR. BURDON SANDERSON, who dealt chiefly with the question of etiology. He said there were not as yet enough facts to say definitely that tubercle taken by the intestine produced general tuberculosis, but in children tubercles of the intestine were followed by tubercles of the glands and the bones, so that we might infer that the same might occur in the adult. We were in great want of more experimental research. More evidence was wanting as to the cause of tubercle in infancy. With regard to government administration, Dr. Sanderson advised a strict system of inspection extending over the whole country, acting equally in different parts. Tubercle should be included in the Infectious Diseases Prevention Act. About five per thousand of cattle were generally condemned as tuberculous. This involved compensation which would involve (very small) extra taxation.

The Alleged Danger of Consuming the Apparently Healthy Meat and Milk of Tuberculous Animals.—PROFESSOR BANG, of Copenhagen, read a paper with this title. He described some experiments which he had made, and said that, on the whole, he did not think the milk from a tuberculous cow, with udders apparently healthy, was dangerous, though it was sometimes so, and

was always suspicious. Meat was not a source of danger so long as the malady was localized.

On the Transmission of Tuberculosis from Animals to Man, by means of Flesh and Milk, derived from Tuberculous Animals.—This paper was by PROFESSOR MCFADYEAN and DR. SIMS WOODHEAD. They thought the main cause of tuberculosis was from animals. The danger of tuberculous milk, however, was diminished by dilution with sound milk. There was great necessity for a fortnightly inspection of milch cows by a veterinary surgeon. No phthisical person should be allowed in a dairy.

M. ARLOING proposed that the etiology of tubercular disease of early infancy, between three months and five years, be referred for discussion to the next Congress. This was seconded by Dr. S. Gibbon and carried unanimously.

The President, SIR JOSEPH LISTER, said he was pleased to find that spontaneous tubercle was never seen in the sheep, so we could eat mutton with safety.

Koch's Method.—PROFESSOR EHRLICH read a paper on "Koch's New Method of Treating Tuberculosis," and described the methods of Moritz, Biedert, Guttmann, and Langenbrich. All of these processes were based upon the application of small but repeated doses, of gradually increasing strength, and their advantages were that the undesirable inflammatory effects of the remedy were avoided.

PROFESSOR CORNIL, of Paris, DR. BARDACH, of Odessa, DR. PENFICK, and PROFESSOR HUEPPE narrated their experiences with tuberculin, and DR. HUNTER described some experiments he had made, in which he had succeeded in isolating three substances, viz., one which caused fever but no local action; 2, one which caused local action but no fever; 3, one which gave neither, but had the remedial effect.

The Inspection of Meat with Regard to the Prevention of Disease.—DR. FRANCIS VACHER read a paper on this subject in which he urged the adoption of the following measures: The general provision of public abattoirs; closing of private slaughter-houses; licensing and registering of all butchers and their premises; appointment of competent inspectors of meat; general systematic inspection of animals and meat intended for food; appointment of competent assessors to sit with magistrates, and assist them when necessary in the hearing of cases relating to diseased meat.

SECTION ON INFANCY, CHILDHOOD, AND SCHOOL LIFE.

Children and the State.—The first paper read was on "Neglected Children in our Towns and Cities," by MR. WILLIAM MITCHELL, Chairman of the Glasgow School Board, who proposed legislative, social, and individual remedies. A discussion followed, and then Dr. Victor Desguin read his paper on "The Treatment of Orphans Considered in its Physical and Moral Aspects."

The REV. J. LLEWELLYN DAVIES read a paper on "Free Dinners for School Children." An animated discussion ensued.

MRS. BESANT proposed a resolution which was finally carried in the following amended form: "That this Congress, asserting the duty of the state toward its future citizens in the matter of education, declares that the feeding or clothing of destitute or neglected children is necessary for their efficient education. Where such destitution or neglect is due to the misconduct of the parents or guardians of the child, it is the duty of the legislature to visit that misconduct with penal consequences."

SECTION ON CHEMISTRY AND PHYSICS IN RELATION TO HYGIENE.

Contaminated Water-Supply.—DR. PERCY FRANKLAND read a paper on "The Present State of our Knowledge Concerning the Self-purification of Rivers." He contended that the evidence of self-purification was wholly inadequate to justify the use for town-supply of river water which had received sewage contamination.

A number of papers on the disposal of house refuse were read and discussed, an almost unanimous opinion being expressed in favor of the destruction by fire of such refuse.

SECTION ON STATE HYGIENE.

Disposal of the Dead.—A discussion was inaugurated by the reading of a paper by SIR HENRY THOMPSON, entitled "Recent Proposals Relating to Burial and Cremation, and the Importance of Disinfecting all Bodies Dying from Infectious Disease, with Remarks on the Present System of Certifying the Cause of Death." The author maintained that the ordinary method of burial was a danger to the living—especially in the case of persons dying from zymotic disease—and that pollution of sources of water-supply was a common occurrence in the neighborhood of graveyards and cemeteries. He admitted that in light, dry soils and elevated spots—the most salubrious, he remarked, for human habitation—it might be possible to adopt interment in perishable coffins or in close contact with the soil itself. Cremation, however, was preferable. For bodies certified to have died from infectious disease it should be made compulsory to either cremate them or bury them in capacious coffins filled with quicklime. In view of the increasing preference for cremation it was essential to demand, at the same time, that the official determination of the causes of death should in all cases be more complete than had hitherto been the case in this country.

Rational Disposal of the Dead.—MR. SEYMOUR HADEN followed with a paper on "The Rational Disposal of the Dead: A Plea for Legislation." In this paper Mr. Haden reiterated the views he has so long advocated as to the desirability of earth-to earth burial. He has for many years been active in directing attention to the evils of the present system of interment, and his paper was a very interesting *résumé* of the subject. He contended that in earth-to-earth burial the decomposition of the body was accomplished rapidly in an innocuous manner, and that cremation was not only unnecessary but an incentive to crime.

A discussion ensued, which was on the whole favorable to cremation, and the following resolutions were passed with only a few dissentients: "That governments should be urged to remove all legislative obstacles to the cremation of bodies." "That governments be urged to adopt cremation of bodies on the battle-field." "That the cremation of the dead is a rational and hygienic procedure, which is especially called for where death occurs from contagious disease."

SECTION ON NAVAL AND MILITARY HYGIENE.

Enteric Fever.—A discussion on this subject took place, introduced by papers by Dr. Lane Notter, Surgeon A. M. Davies, Dr. J. Edward Squire, and Dr. Schneider.

DR. NOTTER concluded that the apparent increase in the mortality from enteric fever in India was due to the fact that deaths formerly returned as from remittent fever were now returned as from enteric fever.

DR. DAVIES thought the enteric fever of campaigns was of pathogenic origin, due to a specific bacterial parasite, which parasite need not necessarily be derived from a pre-existing case, but might have developed its specific characters and disease-producing properties by a process of evolution under favoring conditions.

DR. SCHNEIDER said that the diminution in typhoid sickness and mortality in the French Army had not only been continuous but also progressive.

BRIGADE-SURGEON STAPLES drew special attention to two chief factors underlying the development of the disease in India, viz., the undue susceptibility of the newly-arrived in the country, and the still greater susceptibility of those who arrived at an undue season of the year. He

drew the practical conclusion that as regarded the Bengal European Army it was necessary to retain the soldiers and to resort to the old system of landing troops in that country which gave them the cold weather before the dry season began.

SURGEON-GENERAL MARSTON concurred as to the importance of selecting the right season for sending out our troops to hot climates, and, in case of war, he thought more might sometimes be done in the selection of regiments.

BRIGADE-SURGEON HARVEY said he had seen many cases of enteric, and many of remittent, fever; many also of a fever which used to be returned as remittent but which was now entered as enteric, thus raising the apparent numbers of the disease. In these cases the temperature charts did not correspond with the typical charts given by Wunderlich and others. He had for some time thought there might be another variety of fever intermediate between enteric and remittent, yet differing from the one in important particulars—especially the range of temperature and the pathological appearances, and from the other in not being influenced by quinine. In our last little war on the Miranzai frontier fourteen cases of remittent fever were returned among the native troops and followers, and among the British troops, while six cases among the latter were returned as enteric. If we accepted Surgeon Davies's theory of possible origin there was no difficulty in accounting for them; but if we considered the disease to have a specific origin, then, as the men had left India longer than the longest supposed incubation period, and the native population knew nothing of a fever lasting three weeks and ending in death, it was difficult to account for them. None of the men died, but the temperature charts did not correspond with the Eastern type, and were similar to those of the remittent-fever cases among the native troops. He thought that pending further investigation the term typho-malarial, as recognized by the American nosology, might be used provisionally and as a matter of convenience. He did not consider that the use of this term implied a belief that enteric and malarial fever were combined, the typhoid state being common to many diseases.

BRIGADE-SURGEON MAUNSELL said that in India troops in cantonments could be protected by improving the conservancy; the system might be good theoretically, but practically it was very faulty.

SURGEON-MAJOR ROBINSON said typho-malarial fever was a disease worthy of more investigation. The name had lately been admitted to our nosology, but it did not seem to him a good one, as a combination of two specific fevers did not constitute a separate disease. The disease differed from ordinary enteric in important respects—especially as to prolonged incubation and protracted convalescence. It occurred very largely in recent Egyptian campaigns.

DR. GODFREY, of the U. S. Marine Hospital Service, said that a series of cases observed in the hospital of which he had charge, in which the typhoid fever was interfered with so as to cause a suspicion of mixed disease, showed by culture methods and microscopic examination that the patients were all invaded by the bacillus of Eberth, and the plasmodum of Laveran. These patients all came from one place, had drank the same water, and been subjected to the same miasm. In America those places were most exempt from typhoid where river water held in upper ground cisterns was drunk.

BRIGADE-SURGEON KEY said typho-malarial might or might not be a good name, but for the safety of the soldier we should do well to look at doubtful cases as belonging to the graver or enteric form.

DR. CAYLE said one of the modes of spread of typhoid fever, cholera, and other diseases which probably depended on the introduction of a definite poison into the system, was by means of the dust carried in the atmosphere. This applied to India and nearly all continental countries.

PROFESSOR NOTTER and DR. DAVIES then replied. The former said, in reply to Surgeon-General Marston, that we must prevent specific disease by studying the environment of specific cause. Take cholera bacilli. They would not grow in an acid medium. The stomach was alkaline after fasting. The practical bearing of this was to use acid drinks and not to enter a hospital when the stomach was empty. Future research would tell us what were the conditions most favorable to Eberth's bacilli. As a practical conclusion he would say, "Dry your soil, and endeavor to control the variation in the water-level." He did not think Brigade-Surgeon Harvey's cases were enteric.

DR. DAVIES, in reply, said nearly all the speakers endorsed the pathogenic theory of origin. This was a justification for his dwelling on the fact that the experience of army medical officers was not in accordance with current teaching as to the necessity of a specific contagion. The most recent bacteriological investigation tended to show that there was not one micro-organism responsible for the causation of typhoid fever, but several. This harmonized with the experience of army officers that there was more than one form of fever met with in campaigns. Evolution might cause these variations.

Division of Demography.—MR. H. S. HALLETT read a paper on "India Factory Legislation." Mr. Hallett urged that there was a case for protecting workshops and minor factories which had been excluded from the Act. Owing to this exclusion, children of any age might be employed in workshops for any number of hours by day or night, and under most insanitary conditions.

MADAME LE DR. A. C. KATCHEF read a paper on "Home Work in Russia," in which she said the economic and hygienic position of such workers (known in Russia as "koustari") was deplorable.

Relative Ages of Husband and Wife.—DR. JOSEPH KÖROSI, Director of Municipal Statistics, Buda-Pesth, then read a paper on "The Influence of the Age of Parents on the Vitality of their Children." The author urged that girls should not marry at all under twenty, and that women under thirty, or even thirty-five, should avoid marriage with men over fifty. Women above thirty-five had no unfavorable chances to fear by choosing a husband above fifty, and these same women, and even those from thirty to thirty-five, would do well to avoid union with young men, as it seemed probable that their children would be more exposed to hydrocephalus or inborn debility. Males should therefore generally renounce to the youngest girls under twenty or nineteen years of age; if between twenty and thirty, they should avoid marrying women above thirty-five; if at the age of fifty, they had approached the end of male generative power, and they should select no younger woman than above thirty-five.

DR. SINGER remarked that the variation of mortality of children in relation to the age of mothers, as shown by Dr. Körosi, might be in connection with the fact that the marriage age among the working classes was a comparatively young one, whereas among those in a better social position marriage took place later.

THE PRESIDENT, MR. F. GALTON, F.R.S., thought much useful information on the subject might be obtained from a careful study of well-kept stud-books.

DR. LONGSTAFF observed that the births in each year were due to marriage in many preceding years. We did not know how many resulted from marriages that had taken place in the immediately preceding years.

FIFTH DAY, FRIDAY, AUGUST 14TH.

SECTION ON BACTERIOLOGY.

Disinfection of the Living Body.—DR. HUNTER gave a *résumé* of Dr. Behring's paper on this subject. The author said that down to 1883 it was not thought possible to render harmless pathogenic germs in the living

body, but the work of Pasteur and Koch had shown this theory to be false. Antiseptics acted both on the bacilli and on their chemical products, so that disinfection must be held to apply to these poisonous chemical products as well as to the bacilli themselves. The spleen of a mouse dead with anthrax was rendered innocuous by exposure to the blood of an animal "immune" to anthrax. The action of a combination of corrosive sublimate and chloroborate of sodium was very marked. The disinfecting power was only seen in animals after subcutaneous injection close to the original inoculation one or two minutes after such inoculation had been made. But the action was partly general, producing general changes in the blood which rendered it unsuitable to the growth of anthrax bacilli. Behring concluded that there was a great future before us in the discovery of these valuable combinations. In diphtheria the best chemical disinfectant was terchloride of iron. Corrosive sublimate and zinc, as described by Lister, were also effective. After animals had acquired a certain degree of immunity, these chemical agents acted in a different way. The results of his experiments showed that not only the bacilli but their chemical products were acted on. It was doubtful whether we could influence the functions of living cells for curative purposes. In the general treatment of infectious disease we must recognize the principle which Lister had applied in the local treatment of traumatic lesions, viz., to keep away or make innocuous the heterogeneous causes of disease, but to leave in quiet living cells and living tissues.

Dr. Roux inclined more to the belief that immunity was conferred by the direct action of the cells on the bacilli than by any chemical action which he regarded as incomprehensible.

The President said he regarded phagocytes as one regards higher animals which are gifted with an intelligence, and not only a chemical action. He thought we must not look merely to chemical action.

Testing Disinfectants.—The next paper was by Professor Max Gruber on "The Methods of Testing Disinfectants." The author showed that when tested by proper methods, such as he described, the disinfectant powers of most substances proved to be considerably less than had usually been conceived. In his experience the best agents proved to be carbolic acid, lysol, and a preparation of kresole which he had recently had prepared.

Immunity.—Next followed a paper by Dr. Armand Ruffer on "Some Experiments on the Mechanism of Natural and Artificial Immunity." The author's experiments were chiefly made with the bacillus chauvœi (charbon symptomatique, Rausch-brand, quarter evil), and as the result of them he arrived at the following conclusions: That the natural immunity of rabbits, and the artificial immunity of guinea-pigs was not due to the absence of nourishing material. That the dead serum of non immune animals had a more powerful action on the bacillus chauvœi than the serum of immune animals; the living fluids of non-immune, naturally immune, and artificially immune animals had no power of destroying the same. By allowing an extremely weak virus to grow in the living fluids of a naturally or artificially immune animal, and protecting it from the action of the wandering cells the virus became so intensified that when re-inoculated into the same or any other immune animal it caused death. The living fluids of a febrile animal had no bactericidal powers for the micro-organisms which produced the fever. The virus which, protected from the action of wandering cells, had lived for three, five, seven, or more days in the living fluids of febrile animals became extremely intensified. The inflammatory reaction, or rather the emigration of wandering cells to the point of inoculation, was inversely proportional to the number of micro-organisms introduced. The number of micro-organisms which penetrated from the point of inoculation into the tissues and general circulation was inversely proportional to the number of wandering cells which had emigrated to the points of inoculation. There was evidence that the leucocytes were attracted to the point of inoculation by a chemical poison, and that they absorbed bacilli while the latter were still alive. He had found experimentally that in acute infectious diseases the leucocytes did not emigrate, and that the absence of inflammatory reaction was not solely due to paralysis of leucocytes, or to vascular alterations, but to other and more complex causes. Experiments showed also that though leucocytes refused to emigrate, they might be very active, and whenever they were prevented—either mechanically or otherwise—from reaching the virus, the disease ended fatally in naturally or artificially immune animals. Iodine in certain strengths had an attraction for leucocytes, while lactic acid and benzol repelled them.

Dr. Roux read a paper on "The Practical Value of Preventive Inoculation" in which he maintained the superior value of preventive inoculations with attenuated virus over chemical inoculations.

Professor Babes read a paper on "Rabies and its Treatment." He said Pasteur's method was, with certain modifications, the best treatment. Professor Babes had, as long ago as 1886, pointed out the necessity for the passage from weak to strong injections being regular. The patient should be inoculated as soon as possible after infection. Bites in the neighborhood of, and involving nerves were most fatal, hence the depth of the wound and its situation were of importance.

SECTION ON THE RELATION OF THE DISEASES OF ANIMALS TO THOSE OF MAN.

Actinomycosis.—A discussion on diseases communicable from animals to man, and *vice versa*, was opened by Professor Crookshank, who said he would deal exclusively with a disease common to man and animals which had interested him for some years more than any other, viz., actinomycosis. This, he said, had frequently been referred to as a new disease, but the various manifestations of it had been met with for more than half a century, though misunderstood and misnamed. From contemporary literature there could be no doubt that it was very prevalent in Scotland in 1827–39. Professor Crookshank described its various manifestations, and referred to its prevalence in Australia and the United States. In man, as in cattle, cases of actinomycosis had been met with and not recognized as such. By the researches of Israel and Ponjick in Germany, and the recognition of a case in man by Acland in this country, a new field of inquiry had been opened up. The disease was not new in man, but it had not been differentiated from the diseases which it simulated. In 1848 M. Louis met with a pulmonary affection supposed to be cancerous. Mr. Lebert found in the pus—and made a drawing of—the tufts of club-shaped elements with which we were now so familiar. Nearly two hundred cases in man had been described, and about five per cent. had occurred in this country. Professor Crookshank suggested that the resemblance of the disease to tuberculosis might explain the reports of a very high percentage of cases of tuberculosis in cattle, both in this country and the colonies. He thought the disease was rarely, if ever, the result of direct infection from cow to cow, or from cow to man. There was reason for believing that man and animals derived the disease from a common source, and a strong suspicion attached to cereals.

Professor Ponfick said he agreed with Professor Crookshank. In cattle the disease was generally transmitted by food.

Professor Nocard referred to the irregular geographical distribution of the disease. He thought the disease spread in certain food-stuffs, and that in certain districts the pasture was infected with the germs of the parasite. In a recent outbreak a large number of wolves and cows were all attacked simultaneously with the different forms of the disease. In such a district man could

also be infected if he ate green food uncooked. The question of man infecting animals, or animals affecting man did not seem to Professor Nocard to arise.

Dr. Salmon said the statements in regard to the prevalence and contagiousness of actinomycosis in the United States has been greatly exaggerated. So far from there being four or five per cent. of the bovine animals in the United States affected with actinomycosis, it was probable, from the results of the national inspection recently established, that there were not over one or two per thousand among the beef cattle which arrived at the stockyards. Public opinion in the States would not tolerate the utilization of the carcases of animals affected even in the slightest degree.

Mr. Goodall, of Christchurch, said our present knowledge seemed to prove that the parasite was a fungus which found its normal habitat in vegetable structures and was only accidental in animals. He suggested that a conference such as the present should carry their deliberations to the utmost, and not rest with the diseases communicable from animals to man, but from the vegetable to the animal world. He begged to call attention to the part played by the larvæ of dipterous insects from a hygienic point of view. These larvæ were reported to feed on decomposing organic matter, but their mouths were so constructed that this was impossible; doubtless they fed on the lower forms of animal life and thus kept these forms of life in check.

Professor Walley said he was not previously aware that internal lesions were commonly found in cattle. Professor Crookshank's remarks showed the necessity of dealing with actinomycosis as a contagious disease equally with tuberculosis. He failed to see how it could be held not to be contagious. The sooner the better the disease should be scheduled, together with tuberculosis, as a contagious disease.

Mr. Barrett said the disease was most frequently found on heavy land; on light land it was almost unknown.

Professor McFadyean did not think actinomycosis was very frequently confounded with other diseases by veterinary surgeons. He was interested to hear that it had been confounded with tuberculosis in Australia; this confusion was probably responsible for the statements as to the prevalence of tuberculosis among cattle that had never been housed.

Sir Henry Simpson, of Windsor, said he was content to recommend the consumption of the flesh of infected animals, always excluding the locally diseased parts.

Professor Crookshank then replied. He said that as to the question of the disease being confounded with tuberculosis, there was no doubt the great fear which had arisen in consequence of the statement as to the prevalence of tuberculosis would be allayed if it were found that the less serious disease, actinomycosis, had been confounded with it. His remarks applied more particularly to those cases of what had always been considered scrofulous, but which were really examples of actinomycosis.

SECTION ON INFANCY, CHILDHOOD, AND SCHOOL LIFE.

The Care and Treatment of Epileptic, Mentally Feeble, and Imbecile Children, was the title of a paper read by Dr. Fletcher Beach. The author said that these constituted three perfectly distinct classes of cases, and the care and treatment of each should proceed on different lines. He proposed that homes should be prepared for epileptic children where they could be trained mentally and physically, and where medical treatment could be pursued. He suggested that auxiliary schools, similar to those in Norway and Germany, should be established for feeble-minded children, in which instruction adapted to their powers should be given by teachers experienced in the methods required to call out the faculties in such cases. He remarked that the provisions at present made for imbecile children were very defective.

The next paper read was by Dr. Shuttleworth, on "The Care of the Mentally Feeble Child, as Distinguished from the Imbecile." A paper by Dr. Kotelmann followed. Some discussion ensued, and the following resolution was carried: "That this Congress do appoint a commission, consisting of persons generally conversant in, 1, examination of the physical condition of children; 2, mental condition of children; 3, education, and methods of dealing with children; 4, statistical compilation of facts; whose duty it should be to inquire into the condition of children in schools and elsewhere, and carry out the same upon a fixed plan. This Congress empowers the commission to add to their number, and to appeal to recognized authorities or sources for assistance if necessary."

The next paper was on "The Education of the Blind," and was by Dr. Campbell, Principal of the Royal College for the Blind. At its close the author proposed a resolution which was subsequently passed in the following amended form: "That the time has come when the blind, deaf, and dumb should have a well-graded, practical, and comprehensive course of instruction; that the training of the blind, deaf, and dumb should not be conducted on a charitable basis, but formed on a national system of education."

SECTION ON CHEMISTRY AND PHYSICS IN RELATION TO HYGIENE.

Meteorology in Relation to Hygiene.—Dr. Buchan read a paper on this subject. The author said he thought no city could be compared with London as affording the best available material for an inquiry into the relation of weather to health. He found the highest mortality occurred during the months of lowest temperature. He also noticed that the death-rate rose in proportion to the density and persistency of the fog.

Dr. Russell remarked that when there was a great increase of death-rate in foggy weather a low temperature accompanied the fog, but that there were dense fogs without decrease of temperature, and then the death-rate did not fall below the average.

Dr. Longstaff observed that meteorological curves and curves of death could not correspond exactly, owing to the fact that the interval between the death and its registration averaged about five days, and the interval between the commencement of an illness and a resultant death was of uncertain, often considerable, duration. He thought that meteorological changes were not of themselves the cause of death, though the number of deaths appeared to be contributed to by these changes.

Dr. Tripe said the effects of fog varied very much, according to their density and quality.

Dr. North drew attention to curves drawn by Professor Tacchini, showing the relation between the rainfall in the months of March, April, and May and the number of cases of fever in the province of Rome in the autumn. As the result of his own experience in the Roman Campagna, he entertained grave doubts as to the possibility of explaining the phenomena of intermittent fever on the hypothesis of a pathogenic organism.

SECTION ON STATE HYGIENE.

Several papers were read on the subject of the "Notification of Infectious Diseases." Considerable discussion ensued and the following resolution was carried by a large majority: "That notification of infectious diseases in all countries should be compulsory."

Papers on the "Prevention of Venereal Disease" were read by Dr. Birkbeck Nevins, and Mr. J. Holroyde. Several papers on the "Need for Popular Instruction in Hygiene in Schools" were read, and one on "Popular Instruction in Preventive Dentistry," by Mr. George Cunningham, of Cambridge.

In the Division of Demography, Colonel Woodhull, of the U. S. Army, read a paper prepared by Colonel Charles R. Greenleaf and Major Smart, of the U. S.

Army, on "Personal Identification by Scars, Marks, etc." (see p. 204).

The President of the Section, Mr. Galton, F.R.S., read a paper on "The Exhibition of Finger Prints, and of Registers of them as a Means of Personal Identification."

Dr. Bertillon gave an account of the anthropometrical method of identification of criminals, etc., worked out by his brother, Dr. Alphonse Bertillon.

Dr. Francis Warner read a paper on "The Physical Condition of Children Seen in Schools and the Local Distribution of Conditions of Local Development." In this paper Dr. Warner gave an account of fifty thousand children whom he examined for a joint committee of the British Medical Association and the Charity Organization Society.

A paper by Messrs. J. S. Turner and N. B. Paterson followed, on the "Examination of the Teeth of School Children," and the last paper was by Miss Fanny Fowke, on "The Physical Condition of Pauper Children Boarded out Under Local Government Board Orders."

A discussion followed the reading of these three papers. The following resolution was carried unanimously: "That an investigation which has been made in regard to the conditions of bodily development and brain action in some fifty thousand children indicates new and grave problems respecting the provisions necessary for the care and training of those who are more or less defective in make, and also respecting the causation, in certain districts, of maldevelopments which are much associated with defects of the brain, and that an extended scientific inquiry is desirable for the further elucidation of the subject."

Therapeutic Hints.

Thuya Occidentalis in Urinary Incontinence.—Dr. Howe, of Cincinnati, writes: "The enuresis of childhood and the urinary incontinence of old age, unless the dribbling be from paralysis, are generally suppressed by the use of a carefully prepared tincture of thuya. The drug should be prepared pharmaceutically with little alcohol, and the chlorophyll should be extracted as far as practicable."

Senile Pruritus.—Dr. Besnier, writing in *l'Union Médicale*, recommends the following method for the relief of pruritus in the aged: Every evening the body is sponged with a lotion, warmed to 104°F., to each quart of which is added one ounce of a solution of one part of carbolic acid in fifty parts of aromatic vinegar. After drying the parts are powdered with one of the following: Salicylate of bismuth, ʒ v.; powdered starch, ʒ iij, or finely pulverized salicylic acid, 3 ijss.; powdered starch, ʒ iij. Bran or starch baths are also recommended.

Gonorrhœa.—Castelan claims to have had excellent results in the treatment of acute gonorrhœa by injections of a one per cent. solution of bicarbonate of soda.

For Eczema.—

℞. Thymol..... 3 ss.
Oxide of zinc,
Starch..... āā 3 vj.
Lard..... ʒ jss.
M. Sig.: Apply twice a day to the affected parts.
—*Journal des Maladies Cutanées et Syphilitiques.*

Thuya for Aphthæ.—Dr. Howe, of Cincinnati, recommends a mouth wash and gargle of thuya in aphthæ and in mucous patches of the mouth and fauces, and says that no other remedial agent does as well.

Chaulmoogra-oil in Leprosy.—In the report of the Trinidad Leper Asylum for 1890, Dr. W. V. M. Koch says that the action of chaulmoogra-oil in reducing anæsthesia and causing the absorption of tubercles in leprosy is very uncertain, but that the physical condition of the patient improves greatly under its use. It has a very good effect in allaying the neuralgic pains in the joints and in promoting the cicatrization of ulcers. It is given in doses of ten minims, rapidly increased to thirty, three times a day, but sometimes must be discontinued by reason of the nausea it occasions. Its use should be continued if possible for long periods of time, in order to obtain good results, and when its administration by the stomach is not tolerated inunctions may be resorted to.

Diphtheria.—Dr. Joseph Burghardt, of Vienna, uses a powder of equal parts of washed sulphur and sulphate of quinine, applied very thoroughly to the pharyngeal walls by means of a powder-blower. In a lecture on this subject, translated by Charles Raettig, the author claims never to have lost a patient from diphtheria since he began to employ this method, having had thirty-three consecutive recoveries of patients from one to twenty five years of age.

To Check Vomiting in Cholera Infantum.—Dr. N. Mandelstamm, of this city, writes: "It is well known that occasionally the usual remedies fail to control the vomiting in cases of gastro-intestinal catarrh in children. In such cases I have used moschus orientalis for several years while in Europe, and have been very well satisfied with its action. I have seen some cases in which the vomiting was at once stopped by the musk, while the diarrhœa was uninfluenced by it. Of how great importance it is for the nourishment of the child to stop the vomiting, it is needless to say. The most convenient formula for the administration of the remedy in these cases I have found to be the following:

℞. Tincture of musk..... ♏xx.
Red wine (may be omitted)..... ʒ ss.
Simple syrup..... ʒ ss.
Infusion of salep..... ʒ ij.
M. Sig.: A teaspoonful every two hours."

Wocher's Method of Reducing Subcoracoid Dislocations of the Humerus.—Dr. E. S. Cleveland, of Burlington, Kan., writes: "I did not have an opportunity to test this method, to which attention was called in the Medical Record a year or more ago, until recently, when I was called to a case of the kind within a few moments after the injury was received. Though there was very little relaxation, I thought best to make trial of the method without chloroform, and the reduction was so easy and perfect as to surprise me. If this case is a sample of the method, it should be used in preference to any other. The movements were as follows, the patient being on his back on the floor, and the opposite shoulder being held down firmly: 1. Adduct the arm to the body, and draw down the elbow flexed to a right angle. 2. Rotate outwardly till the forearm touches the floor. 3. Maintaining the external rotation, carry the elbow to the sternum. 4. Place the hand upon the opposite shoulder. The whole process did not occupy more than half a minute."

To Remove Superfluous Hair.—Dr. Frank Van Allen, of Madura, India, writes: "By means of the following method I have cured two fairly severe cases of hirsuties of the upper lip:

℞. Powdered air-slaked lime..... 3 j.
Orpiment (arsenic trisulphide, As_2S_3)..... gr. ij.

Add water enough to form a paste, and mix. Apply to the hairy surface about a quarter of an inch thick. Allow the paste to remain for fifteen or twenty minutes, when it will be dry. Remove; and the surface which before was hairy will be as smooth as the palm of one's hand, the hair coming off with the paste. The skin may or may not be slightly reddened, but this redness will pass away within an hour or so. After a few days the eaten-off ends of the hairs will be seen on careful examination, but a second application of the paste will as before destroy the hair. These applications will have to be made about twice a week at first, then once a week, then once a month, etc. The hair grows out at first

very much as if it had been merely shaved off; later, on careful examination, each individual hair is found to be thinner than before, growing less strongly, the hair, if black, losing its color, and, in a word, yielding to the continual irritation of the paste. This treatment requires about a year or a year and a half to effect an entire cure, but it possesses the advantage that immediately after the first application the patient is, as far as all outward looks go, completely relieved of her deformity. The most practicable way to direct the patient in the preparation of the paste is to tell her first to provide herself with a small mortar and pestle. Put into the mortar as much of the lime powder as can be held on the end of a spatula or table-knife. Add a few drops of water and mix to a paste. Then with the moistened end of the pestle dip lightly into the powdered orpiment, so that about as much orpiment as would altogether equal a pea in amount clings to the pestle. Mix this with the lime. Do not use too much orpiment. Apply at once. All samples of orpiment do not work well, and on becoming acquainted with this method, some three years ago, I tried five or six samples before I finally procured one that gave good results."

Persulphate of Iron in Dysentery.—Dr. W. Stuart Leech, of Morristown, Tenn., writes: "Two cases of dysentery of great severity recently came under my observation. Both cases were almost identical in onset and recovery, and followed one after the other with the usual dysenteric symptoms. The evacuations consisted of pus, blood, and real blood-clots, and their frequency had reached in one case to thirty five, and in the other to forty-two, during the twenty-four hours. The small, quick and feeble pulse, and anxious expression of the face, with the great amount of blood discharged, indicated a fatal termination. Double doses of opium and astringents were given, with little or no effect. Following a suggestion of my friend, Dr. Millingan, I injected in the rectum, with an ordinary rectal syringe, a solution of ferri persulphas. Its action was like magic, the bloody stools and other symptoms at once disappearing Only one injection was given in each case, and on the third day from that time both cases were dismissed. I wish some of your readers would tell me if this treatment is novel or not. I can find no objections to its use."

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 6, 1891, to September 12, 1891.

HORTON, SAMUEL M., Major and Surgeon. Relieved from further duty at Fort Adams, R. I., and will proceed to San Diego, Cal., and report to the commanding officer for duty at that post.

MIDDLETON, J. V. D., Surgeon. Granted leave of absence for fifteen days.

KIMBALL, JAMES P., Major and Surgeon. Granted leave of absence for twenty-five days.

HUNTINGTON, DAVID L., Surgeon. Leave of absence extended to include September 30, 1891.

HEIZMANN, CHARLES L., Surgeon. Relieved from duty at Fort Clark, Tex., and ordered to Fort Douglas, Utah, relieving Surgeon William D. Wolverton.

WOLVERTON, WILLIAM D., Surgeon. Upon being relieved, will proceed to Fort Schuyler, N. Y., and report for duty at that station.

HUNTINGTON, DAVID L., Surgeon; MCELDERRY, HENRY, Surgeon; REED, WALTER, Assistant Surgeon; GANDY, CHARLES M., Assistant Surgeon. Appointed members of a Board of Medical Officers to meet in New York City, October 1, 1891, for examination of candidates for admission into the Medical Corps of the Army.

CRAMPTON, L. W., Captain and Assistant Surgeon. Granted leave of absence for fifteen days.

Official List of Changes in the Medical Corps of the United States Navy for the week ending September 12, 1891.

WELLS, HOWARD, Surgeon. Ordered to temporary duty in the Bureau of Medicine and Surgery.

DICKSON, S. H., Surgeon. Detached from the practice-ship Constellation and await orders.

CURTIS, L. W., Passed Assistant Surgeon. Detached from the practice ship Constellation and ordered to the Naval Academy.

RUSH, W. H., Passed Assistant Surgeon. Ordered to the Yantic.

BEYER, H. G., Passed Assistant Surgeon. Detached from the Yantic and granted two months' leave.

BOYD, ROBERT, Assistant Surgeon. Detached from the Dale and ordered to the Marine Rendezvous, Boston.

WELLS, HOWARD, Surgeon. Ordered to special duty in fitting out the new Naval Hospital at Portsmouth, N. H.

HALL, JOHN H., Surgeon. Ordered before the Retiring Board, September 19th.

ROSS, JOHN W., Surgeon. Ordered, in connection with present duty, member of Board on Labor Employment.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending September 12, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	42	9
Scarlet fever	50	17
Cerebro-spinal meningitis	3	6
Measles	24	1
Diphtheria	80	21
Small-pox	1	0
Varicella	0	0
Pertussis	0	5
Erysipelas	1	0
Mumps	1	0
Rötheln	0	0

Cremation in Tokio.—The *Sei-I-Kwai Medical Journal* of February 28, 1891, publishes a table of the number of cremations in the six crematories in Tokio during the two and a half years ending June 30, 1890, from which we learn that there were 11,036 cremations during 1888, 12,405 in 1889, and 5,572 for the first half of 1890.

The Kapillarhebermikroskopirtropfenflasche is the name of an apparatus for dropping fluid used in microscopical work, described by Professor M. W. Beyerinck in the *Centralblatt für Bakteriologie und Parasitenkunde*. The author is, however, not obstinate in his partiality for the name, and obligingly proposes Kapillarheberbakterienkulturkölbchen as a substitute for those who think the other is too long.

A Pharmacist's Mistake.—A physician in Mans who was attending a child with bronchitis ordered some apomorphine for hypodermic injection. A pharmacist put up the prescription and the injection was given, but instead of vomiting the child became comatose and died. The druggist said that he had no apomorphine and so put up muriate of morphine, thinking that the effect would be the same. His homicidal act was punished with only three months of imprisonment.

Medical Record

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Congress of American Physicians and Surgeons.

Second Triennial Meeting, Held at Washington, D. C., September 22, 23, 24, and 25, 1891.

FIRST DAY, TUESDAY, SEPTEMBER 22D.

THE meeting was called to order at three o'clock, and DR. PEPPER, of Philadelphia, with a few appropriate remarks, introduced DR. S. WEIR MITCHELL as President of the Congress.

The Conditions Underlying the Infection of Wounds.—The subject announced for the discussion of the afternoon was "The Conditions Underlying the Infection of Wounds," including a discussion of disinfection with reference to the treatment of wounds, of the relation of bacteria to suppuration, of the resistance of tissues to the multiplication of bacteria, and of the effects of antiseptic agents on wounds.

DR. WILLIAM H. WELCH, of Baltimore, opened the discussion. The first, and comparatively simple, idea concerning the infection of wounds by bacteria, much in the same way as meat-broth was rendered putrid by the introduction of these organisms, the speaker said, had given way to much more complex problems, and it was the province of his paper to discuss some of those questions which had grown out of the modern study of bacteriology.

Observations which he had made showed that a white staphylococcus, formerly classified as the staphylococcus pyogenes albus, was frequently present in stitch abscesses and was very commonly found in the epidermis. Another bacterium very commonly found in intestinal disease, is the colon bacillus. Fraenkel has recently reported the presence of a pure culture of this bacillus in nine out of thirty-one cases of peritonitis, and the speaker had himself found it on several occasions in wounds which had been treated aseptically. In these cases there was moderate fever, and a thin, brownish, non-purulent discharge from the wound. It is difficult to account for the presence of the same pyogenic coccus in an insignificant pustule, in a dangerous phlegmon, and in an ulcerative endocarditis. Nor is the quantity necessary to produce suppurative inflammation the same for all parts of the body. Undoubtedly, a partial explanation of these differences is to be found in the rapidity of absorption in different localities, and in the presence or absence of additional toxic substances. Human tissues appear to respond more readily to inoculation with pyogenic cocci. Various conditions in and about a wound predispose to infection. Thus, the source, number, and virulence of the micrococci, the locality of the wound, the presence of drainage-tubes, and the handling to which the tissues have been subjected, all exert a modifying influence. Although contact-infection is the most to be feared, it is unwise to ignore the danger of air-infection, and hence more attention should be paid to the purity of the air in an operating-room and its freedom from dust. Many chemical substances predispose to infection by acting as irritants, and this is notably the case with corrosive sublimate, which Halsted has shown may produce an area of superficial necrosis, visible under the microscope, when employed in as weak solutions as 1 to 20,000. Bacteriological experiments show that in healing by blood-clot there is no danger from the presence of the clot. It is especially interesting to note that the author's experiments have elicited the fact that the white staphylococcus exists in the deeper layers of the skin, and is capable of resisting all known methods for cleansing the skin. On this account Dr. Halsted has for the past two years abandoned the use of skin sutures, using in their place subcutaneous ones, and his results have been most gratifying.

DR. ROSWELL PARK, of Buffalo, continued the discussion on wound infection, a subject which he considered inseparable from that of immunity. The condition called sepsis is a most complicated one, consisting as it does of a poisoning by ptomaïnes, toxines, and albumoses, having widely varying strength and properties. Various poisons are formed in the alimentary canal, and physiology teaches us that the liver filters them out before they reach the systemic circulation.

The speaker had on a previous occasion endeavored to show the importance of this hepatic function in the avoidance of septic intoxication in surgical patients. It is important to bear in mind, in connection with the general subject of blood-poisoning, that intestinal toxæmia, or entero-sepsis, was of frequent occurrence, and deserved a prominent place. In this connection it is interesting to recall the excellent results obtained in various septic conditions by the administration of a purgative, which stimulates the liver and frees the alimentary canal from toxic materials.

In the study of wound infection, and of immunity, one is called upon to investigate the antagonisms of different bacteria, and the poisons which they produce. Pfeffer has given the name chemotaxis to that faculty possessed by all motile bacteria of moving toward or away from certain substances which seem to attract or repel them. This faculty is, however, not confined to bacteria, for the leucocytes possess powerful chemotactic properties, and the albuminoid material furnished by bacterial cells seems to offer the most attraction for these leucocytes. It is this that attracts leucocytes to an infected area. Whether living or dead, bacteria seem to attract toward them leucocytes, which act as scavengers for the surrounding tissues. In the light of our present knowledge, it is difficult to see how the possibility of phagocytosis can be denied. According to this doctrine, then, in both suppuration and absorption the leucocytes are attracted by the proteid material furnished either by bacteria or by disintegrating tissue suffering from other infection. Applying this knowledge to practice, it is easy to understand, how, in the separation and absorption of large sloughs, this chemotaxis results in bringing large numbers of leucocytes where they are needed for tissue repair. This subject suggests another practical thought, worthy of careful study, viz.: the chemotactic activities of the antiseptics in common use.

It must not be forgotten that by no means all the sources of sepsis concern the wound itself; the other principal sources may be classified as follows: 1. Previous long-existent toxæmia, *e.g.*, syphilis, diabetes, acetonæmia, lithæmia, alcoholism, malaria. 2. Previous anatomical changes which reduce vitality, *e.g.*, inherited diatheses, old age, amyloid change, chronic and acute nephritis. 3. Recent or acute toxæmia, *e.g.*, uræmia, typhoid intestinal toxæmia, stercoral toxæmia. 4. Other acute conditions, *e.g.*, starvation, scurvy, anæmia. 5. Conditions of environment—bad hygienic surroundings. 6. Effect of anæsthetics. 7. Effect of antiseptics.

The speaker laid great stress upon the importance of

intestinal toxæmia, for he had frequently seen commencing septic disturbance in wounds of all parts of the body quickly aborted by clearing out the alimentary canal.

In regard to the effect of antiseptics, it seems at first glance absurd to suppose that they may actually favor infection, yet not infrequently the patient is so poisoned by these substances that his cell-resistance is diminished or destroyed, and consequently there is little or no opposition to infection. Again, the chemical reaction occurring between the antiseptic agent and the vital fluid may be such as to destroy the properties of the former, and at the same time so change the tissues as to favor rather than resist infection. These observations apply with especial force to the action of corrosive sublimate solutions. Numerous experiments have shown the high value of blood serum as an antiseptic, and it is probable that further study will teach us how to utilize this most important property to the best advantage. At present the ideal antiseptic would seem to be the peroxide of hydrogen, which not merely destroys living organisms, but, by oxidation of infected material, acts as a scavenger of the tissues.

After enumerating the principal sources of contact-infection, the speaker gave brief directions concerning the best methods of avoiding such infection. For sterilizing the skin, where time would allow of elaborate preparation, he advocated shaving; the application for a day or two of some antiseptic ointment; again washing, using the sapo viride of the German Pharmacopœia with five per cent. of lysol or of hydro-naphthol; next the use of compresses, moistened with some liquid, non-irritating antiseptic, like a creolin, or hydro-naphthol, and finally, another shaving and scrubbing with hydro-naphthol soap, and a last washing with equal parts of alcohol and ether. The instruments are best prepared by subjecting them, in a dry sterilizer, for half an hour to a temperature of 140° to 150° C. Sponges may be rendered aseptic by the methods now in vogue, but it is better in most instances to discard them for some other cheap absorbent material, which can be used once and thrown away. Silk sutures should be wound on glass spools, and placed in a glass tube, and then kept for an hour in a steam sterilizer upon two different occasions. Raw catgut should be deprived of its fatty material by immersion in benzine or ether, after which it is dried and then soaked for two days in a one per cent. watery solution of corrosive sublimate; it is next dried and transferred, first to the oil of juniper berries, and then to a one in one thousand solution of sublimate in alcohol. If it be desirable to chromicize it, this may be done before it is placed in the juniper oil. The method prescribed for cleansing the hands and arms is quite elaborate, nevertheless it is so effective that there need be no fear of contaminating a wound, even though the operator has just come from demonstrating on the cadaver. They should be first washed with a nail-brush, soap, and water, then with a tablespoonful of mustard-flour, which is both a deodorizer and an antiseptic, next a thorough rubbing with the sapo viride containing five per cent. of lysol, creolin, or hydro-naphthol, after which they should be rinsed and immersed in a strongly colored solution of permanganate of potassium. After another rinsing the skin is decolorized with a solution of oxalic acid, and the toilet completed by a final rinsing in water. Regarding drainage, it may be said that it is now considered unnecessary, and a confession of fear, except in infected cases. Any sterilized absorbent material will answer for a dressing, and with the exception of cases in which the dressings are to be saturated with wound discharges, they need not be charged with an antiseptic.

The following are some of the author's conclusions:

The surgery of the future must aim to be aseptic, for, so far as fresh cases are concerned, we have passed the merely antiseptic era.

Asepsis is to be achieved not only by attention to the wound and the paraphernalia of operation, but by the closest regard to the condition of the patient's organs and tissues.

Sepsis and infection are combated in various ways by the inherent properties of cells and fluids, and the wisest man is he who studies to take advantage of these vital activities, rather than introduce new and conflicting elements from without.

Entero-sepsis, or stercoral intoxication, is a condition which every practitioner should fear, and against which he should assiduously guard. When perfect asepsis has been secured, the use of drains or the further employment of antiseptics is an expression of mental uncertainty or of fear.

Dr. Arthur T. Cabot spoke of the bearing of modern bacteriology on the practise of surgery. Lister and his immediate followers endeavored only to shut out bacteria from wound surfaces, but in doing so they found that septicæmia, erysipelas, and similar febrile conditions were almost completely banished from hospitals in which they had hitherto been prevalent. Gradually the truth dawned upon them that the tissues were not mere passive breeding-places for bacteria, but that within certain limits the tissues were able to successfully combat the bacteria introduced into wounds. Numerous experiments have shown that fresh blood-serum is bactericidal, and this is supposed to be due to a special ferment. The speaker said that he had a number of times made cultures from the skin immediately before and after operation, and had found invariably that, notwithstanding the field of operation was absolutely aseptic before operation, it did not remain so during the operation.

Mr. Thomas Bryant, of London, said that while the papers which had been presented were difficult to discuss, they were of much interest to the practical surgeon. It must not, however, be forgotten that if the bacteria form seed, the soil must not be less important, and if present theories are correct one cannot but wonder that any of the patients of former times have recovered. He was glad to have the opportunity to still further emphasize the great importance of the preparatory treatment of the patient—in other words, the preparation of the soil. Many of the antiseptic measures of the present day were, in his opinion, unnecessary. Personally, he believed in occasional irrigation, and the fluid which he had used with great satisfaction for the last twenty years was iodine water of a light sherry color. His plan is to dust the wound with one part of iodol to four of boracic acid, with the idea of preserving the wound from infection during the first twenty-four or forty-eight hours. The accumulation of fluid during this period makes it almost necessary to employ drainage, but by this he did not mean the passage of a large tube entirely through the wound.

Dr. Harold Ernst spoke of the relation of bacteria to suppuration, and referred more particularly to the influence of certain chemical substances upon chemotaxis.

Mr. Chiene, of Edinburgh, said that it had been his privilege to assist Lister for many years in his hospital work, and he felt more and more impressed with the great importance of the good work begun by Lister. He could corroborate everything that had been said by Dr. Park, and he thought the subjects discussed in the opening papers showed the benefits conferred upon practical surgeons by laboratory research. Lister long ago pointed out the antiseptic value of the blood-clot, but it might surprise many to hear that old John Hunter first pointed out its value. He regretted, therefore, to hear it spoken of as Schede's method. He was very sorry that the fashion of the times compelled him to abandon the spray, the more so because he had just learned that bacteria in the deep layer of the skin could not be destroyed. If these should come to the surface during an operation, how convenient it would be to have the spray at hand, to render them at once inert!

Dr. Arpad G. Gerster, of New York, remarked that although Hunter may have been the first to speak of healing by blood-clot, it still remained for Schede to re-

vive the subject and put it into actual practice. Speaking of contact infection, he had been impressed with the many ludicrous little habits of operators, such as scratching the head, rubbing the nose, and putting the scalpel between the lips, all of which did much to neutralize the effect of the many antiseptic precautions which had been carried out with the greatest minuteness. The crucial test of a surgeon's methods, was the occurrence of primary union without the slightest suppuration. Blunt dissection in loose areolar tissue was responsible for much needless injury of the parts, and should be condemned. While the abandonment of drainage and of the application of antiseptics to the wound is in accordance with our present knowledge, it is so difficult in practice to secure strict asepsis that it is unwise and premature to teach such a method.

AMERICAN SURGICAL ASSOCIATION.

Twelfth Annual Meeting, held in the Grand Army Building, Washington, D. C., September 22, 23, 24, and 25, 1891.

FIRST DAY, TUESDAY, SEPTEMBER 22D.

President's Address.—The Association was called to order by the President, DR. CLAUDIUS H. MASTIN, of Mobile, Ala., who delivered the President's Address. He referred to the foundation of the Association in 1879, during the meeting of the American Medical Association, at Atlanta, Ga., and paid an eloquent tribute to the memory of the founder, Dr. Samuel D. Gross. The first meeting of the new Society was held at Coney Island, N. Y., in September, 1881. The meetings were at first held in different cities in successive years, but in 1884 Washington was chosen as the permanent home of the Association. The speaker maintained that there was nothing antagonistic between this Society and the American Medical Association, and said that the fears of some that the one would detract from the efficiency of the other had proved to be unfounded. He called attention to the share that Americans had had in promoting the advance of surgical science, and then spoke of the benefit the Association had been to each of its members, mentioning incidentally that during the ten years of its existence there had never been the slightest breach of harmony among the members. In concluding, the speaker suggested that the medical profession of America should unite in raising a monument in marble or bronze to the memory of Dr. Gross, this statue to be erected in the city of Washington.

Present Status of Brain Surgery, Based on the Practice of Philadelphia Surgeons.—DR. D. HAYES AGNEW, of Philadelphia, read a paper with this title, of which the following is an abstract: What is the present position of brain surgery, and what practical lessons can be deduced from a review of the recorded results in this department of surgery? The object of the author was not to glean the entire field, but to confine himself to the work done by Philadelphia surgeons in trephining for epilepsy, traumatic and Jacksonian, intra-cranial abscess, hemorrhage, hydrocephalus, cephalalgia, microcephalus, and neoplasms.

Traumatic Epilepsy.—Fifty-seven cases were recorded. Of this number forty-one recovered from the operation, four died, and of twelve the result is not given. Thirty-two experienced temporary relief, nine obtained no bene fit, four passed out of observation, four were operated on too recently to permit of the result being determined, and four are reported cured. In one of the cases reported cured the patient has been free from attacks for twenty-eight months, in two for ten months, and in the fourth a branch of the great occipital nerve was found impressed in the bone cicatrix. While the results in these cases have not been satisfactory, it by no means follows that surgery holds out no hope against epilepsy. It is not saying too much to assume that surgery is responsible for the great majority of traumatic epileptics, though this statement does not by any means criminate the surgeon of an early day. Whenever the profession can accept the doctrine that all depressed fractures, however slight the depression and entirely irrespective of pressure symptoms, are proper subjects for trephining, then will traumatic epilepsy largely disappear from the list of surgical diseases. It is not improbable, in view of the greatly diminished risk of trephining, that the operation will be extended even to cases of simple fracture or fissure of the skull.

Jacksonian Epilepsy.—The table contains fourteen cases. In all the discharging centre was removed. Nine recovered, and four died. Of those recovering, three had less frequent and less violent attacks, one realized slight benefit, one disappeared shortly after operation, and in two no benefit was observed. One is reported as cured, and in that case the operation was done during the present year.

Abscess.— Eighteen cases of this nature have been collected. Six had had fracture of the skull, two had syphilitic necrosis, in one a foreign body had entered the brain, in nine the abscess was due to middle-ear disease, and in two there had been a severe blow without fracture of the skull. All the patients died in less than fourteen days.

Five cases of trephining for intracranial traumatic hemorrhage are recorded, in each instance the symptoms necessitating operation developed within twelve hours after the reception of the injury. Four of the five cases recovered not only from the operation, but with the restoration of the suspended functions. Of trephining for acute and chronic hydrocephalus five cases are reported. All the cases died, one living to the forty fifth day. As hydrocephalus is usually due to tubercular disease or to morbid growth, it is difficult to understand on what ground such operations are undertaken.

Cephalalgia.—Five cases are given, in each of which the focus of pain was referred to the neighborhood of a scar on the scalp. In four of the cases complete relief was afforded.

Trephining for Microcephalus.—Seven cases are reported, of which four died and three recovered from the operation. One of the deaths, however, was due to scarlet fever occurring shortly after the operation. The result in the successful cases is reported as "moderate improvement." From the results obtained from the education of idiots, the author thought it wiser to relegate these unfortunates to special training-schools rather than to the trephine and rongeur. The debatable cases would be those accompanied with athetosis, in which condition some improvement might be obtained.

Brain Tumors.—Only four operations for brain tumors have been done by Philadelphia surgeons. In one the growth was a fibroma weighing four ounces. The operation was done by Dr. Keen, December 15, 1887, since which time the patient has had only six epileptic seizures. In the second case, done by the same operator, the tumor was in the occipital lobe and not removable. The patient died the following day from shock and hemorrhage. In the third case no tumor was found, and in the fourth a cyst occupying the cuneus was found and emptied. The patient died in thirty-six hours, and at the autopsy a large sarcoma was found occupying the temporo-sphenoidal lobe.

The deductions presented by the author are as follows: 1. That all fractures of the skull attended with depression, however slight, and entirely irrespective of symptoms, should, in view of the late after-effects, be subjected to the trephine. 2. That trephining for traumatic epilepsy promises only palliation at best. 3. That trephining for Jacksonian epilepsy is to be regarded as only affording temporary benefit. 4. That trephining for abscess, in view of the fact that all such cases left alone almost invariably terminate fatally, is entirely proper, and that the earlier such operation is done the better. 5.

That trephining for intracranial traumatic hemorrhage is both an imperative and highly promising operation. 6. That trephining for cephalalgia, or traumatic epilepsy (medical measures having failed), should be undertaken with every prospect of success. 7. That trephining for hydrocephalus is a useless operation. 8. That trephining for microcephalus, independent of athetosis, confers no credit upon surgery. 9. That it is more than probable that as our observations multiply the sphere of the trephine as a preliminary for the removal of brain tumors will be lessened rather than be amplified.

Dr. John Chiene, of Edinburgh, did not take the same depressing view in regard to traumatic epilepsy. He referred to three cases in which decided benefit had followed operation. He agreed fully with what had been said in regard to operation in depressed fracture whether or no symptoms be present. As regards methods, he spoke of simple measures for locating the fissure of Rolando. The upper extremity may be located by means of a piece of string hung one-half inch behind the middle. The angle may be severed by folding a square piece of paper into four around one of the angles. Three of these parts will give the proper angle. The purification of the scalp is a difficult matter, but may be accomplished by shaving and soaking with carbolic lotion for three days. For opening the skull he advised as safer than the trephine, the gouge and mallet. For enlarging the opening the gouge forceps fill a useful purpose. For puncturing the dura and the brain he uses a Graefe knife. Hemorrhage from the bone may be checked by plugging with a match; bleeding from the brain by hot water. Stress was laid upon the necessity of constant watching of brain cases and illustrative cases cited. In one case of supposed injury to the head (but which later proved to be a case of apoplexy), in which the patient was in a dying condition, great improvement, eventuating in practical recovery, followed trephining.

Dr. W. W. Keen held that every case of depressed fracture should be operated upon, even in young children. A blow upon the head not sufficient to cause fracture may produce laceration of the dura or of the cortex. In regard to linear fracture, however, he was disposed not to accept the view that operation should be performed. In regard to tapping of the ventricles, he thought that further experience and an improved technique would lead to better results. In epilepsy, he suggested the use of the bromides after operation had been done. In many cases of brain tumor, where there is no hope of removing the growth, great comfort may be afforded the patient by removal of bone.

Dr. Charles B. Nancrede, of Ann Arbor, reported cases in which cure had followed operation for traumatic epilepsy, in one the cure was of ten years' duration. Often cases that are reported as failures soon after the operation prove to be cures when followed for a longer time. The operation removes only one of the elements that is causing the epilepsy. In speaking of these operations he stated that hemorrhage from the skull could be checked by forcing in the diploë. In regard to simple fissured fracture, he asked how the diagnosis could be made.

Dr. Roswell Park, of Buffalo, differed from the author as regards the results of operations for epilepsy. He had himself had cases in which decided benefit was afforded. In order to determine the effect, time must elapse, so that the epileptic habit may disappear. The operation removes the anatomical cause, but ordinary therapeutic measures are needed to counteract the secondary conditions. Reference was also made to the relief afforded in brain tumors, even where the removal of the growth was not contemplated. He reported two cases of craniotomy for microcephalus in which benefit had followed.

Dr. H. C. Wood, of Philadelphia, thought that we should wait before coming to any conclusion as to the result of treatment either medicinal or surgical. He referred to one case in which under medicinal treatment the attacks remained absent for seven years and then returned. He advised that in these cases, before the contemplated operation was performed, a mock operation should be done and the effect noted. He cited cases in which such measures had been followed by benefit.

Dr. J. J. Putnam, of Boston, thought that a simple, smooth, depressed fracture would not be likely to cause any symptoms. The irritation from a sharp spicule of bone probably will cause irritation. Probably the most important element in the causation of trouble is the results of the original injury to the cortex. The interstitial changes in the cortex take the form of sclerosis, and it seems *a priori* doubtful that removal of the bone would materially affect it. The operation may not prove indifferent, for the cicatrization of the incised bone may lead to harm.

Mr. Thomas Bryant, of London, had been much struck with the emphasis with which Professor Agnew had insisted upon the treatment to be followed in depressed fracture. As a practical rule he was disposed to agree with him, but there are certain exceptions; he did not think it wise to encourage practitioners to trephine and elevate every case of depressed fracture. He could recall many cases of depressed fracture, followed for years, in which no symptoms supervened. Depression of the lateral aspects of the skull are not so apt to be followed by symptoms as depression of the vault of the skull. From these remarks, he said, it would naturally follow that he disagreed with the observation that in every case of fissure of the skull operation should be done. He wished Dr. Agnew had gone more thoroughly into the reason for this statement. If there has been no brain symptoms, although the blow may have been sufficient cause for fracture, it would not be wise to insist that we should at once proceed to explore to see if there is fracture. It is better to wait and watch for symptoms, being ready to operate as soon as there is a suggestion of something wrong. Although the risk of exploratory operation may be slight, yet it must be admitted that it is attended with some danger.

Dr. D. Hayes Agnew, in traumatic epilepsy, did not condemn operation, but curative results should not be expected from it. Its result is only one of amelioration. He could not withdraw his statement made in the paper, for in many of the cases of traumatic epilepsy there had been no history of unconsciousness or other symptom. There has been a blow on the head, and many years later epilepsy has appeared. It is impossible to determine the condition of the internal table of the skull by inspection of the external table. He had seen a simple crack in the skull with the internal plate forced downward some distance.

A paper on "Resection of the Wrist," by Dr. Rafael Lavista, of Mexico City, Mexico, was presented and read by title.

Report of a Committee on the Results of Treatment of Simple Fracture of the Shaft of the Femur.—Dr. Stephen Smith, of New York, presented the report of this Committee. At the meeting of the American Surgical Association, held May 15, 1890, the following preamble and resolution were adopted:

Whereas, In the treatment of fractures of the shaft of the femur the question often arises as to what is a satisfactory result in a given case; therefore

Resolved, That a committee be appointed by the President, to report at the next meeting of the Association, what in their judgment under the methods of treatment should be considered as satisfactory results.

The question referred to your committee has an important bearing upon the jurisprudence of surgical practice. One of the most frequent causes of prosecution of surgeons is the alleged maltreatment of fractures of the femur.

The following circular was sent by the committee to the members, "What should be considered as a satisfac-

tory result (other than perfect union) in the treatment of a simple fracture of the shaft of the femur." The committee has reviewed the several questions raised and endeavored to secure a common ground on which the Association can take its position, and on which members can individually stand before the courts.

1. *Bony Union.*—The necessity of firm bony union does not admit of discussion. The amount of callus should not be taken as a criterion of the success of treatment.

2. *Relation of Long Axis of the Fragments.*—While it is the aim of the surgeon to restore the normal relation of the long axis of the fragments, yet it is generally impossible to secure exact apposition of the fractured surfaces, nor can the normal long axial line be restored with mathematical precision.

3. *Correspondence of the Anterior Surface of the Fragments.*—On this depends the position of the foot, the result of treatment to be satisfactory requires that the anterior surface should be in the same plane.

4. *Length of Limb.*—This was formerly regarded as the test of success of treatment, the records of the past show that shortening was the universal rule. The discovery of the natural discrepancy in the length of the lower limbs has considerably modified our estimate of this test. Ninety per cent. of healthy, uninjured persons have lower limbs of unequal length. In 35.8 per cent. the right limb is the longer; in 54.3 per cent. the left is the longer. If the amount of shortening does not exceed the average natural difference in the length of the limbs, viz., about half an inch, the result will be in accordance with the laws of nature in the conformation of the lower extremities. If the shortening does not exceed the extreme limit of difference in the lengths of the natural limbs, viz., about one inch, the result should be considered satisfactory. An unsatisfactory result as regards shortening exists only when the amount of shortening exceeds one inch.

5. *Lameness.*—This is a symptom of variable importance. Some will have a limp with one-fourth inch shortening, while others will not limp with half or one inch shortening. In many cases the limp disappears with time, or if it continues it is the result of careless habits of the patient.

6. *Restoration of Function.*—Essential to the function of the femur is strength of the femur at the seat of fracture, free and unimpeded action of the muscles, and proper motion of the knee joint. The determination of the degree of restoration of function cannot be made for at least one year after the cessation of treatment.

7. *Conditional Results.*—There is a class of cases in which our estimate of results must be based upon a careful study of the special circumstances connected with the treatment of each case. Results widely different from those already given must be regarded as satisfactory when we consider the circumstances under which the treatment is necessarily pursued. The treatment may have been conducted under circumstances in which it was impossible to secure proper apparatus, or the injury may have involved other parts so as to prevent the patient from taking the necessary position, or the patient may have suffered from delirium or other malady.

The following conclusions were presented: A satisfactory result has been obtained in the treatment of fracture of the shaft of the femnr when: 1. Firm bony union exists. 2. The long axis of the lower fragment is either directly continuous with that of the upper fragment or the axes are on nearly parallel lines, thus preventing angular deformity. 3. The anterior surface of the lower fragment maintains nearly its normal relation to the plane of the upper fragment, thus preventing undue deviation of the foot from its normal position. 4. The length of the limb is either exactly equal to that of its fellow, or the degree of shortening falls within the limits found to exist in ninety per cent. of healthy limbs, viz., from one-eighth of an inch to one inch. 5. Lameness, if present, is not due to more than one inch of shortening. 6. The conditions attending the treatment prevent other results than those obtained.

AMERICAN NEUROLOGICAL ASSOCIATION.

Seventeenth Annual Meeting, Held at the Arlington Hotel, Washington, D. C., September 22, 23, and 24, 1891.

FIRST DAY, TUESDAY, SEPTEMBER 22D.

The President's Address was delivered by DR. WHARTON SINKLER. After giving a brief history of the organization he referred to the fact that the American Neurological Association was one of the earliest of the national associations to favor the formation of the Congress of American Physicians and Surgeons, and he thought that since its connection with that body it had grown in importance, and the membership had become more general throughout the country. He alluded to the death of Professor Westphal, one of the honorary members of the Association. He recommended that an effort be made to obtain each year papers from some of the foreign honorary and associate members, and concluded by giving a list of the books and papers on neurological subjects by the members during the past year. Since the last annual meeting twelve books and one hundred and seventy-seven papers have been published by the fellows of the society.

Acute Spinal Paralysis—Death on the Twelfth Day—Autopsy showing Transverse Cervical Myelitis.—Dr. Wharton Sinkler, of Philadelphia, read a paper with the above title, and reported a case which was of interest, because, while having the clinical history both of acute polio-myelitis anterior and of Landry's paralysis, the post-mortem results showed a transverse myelitis involving only the cervical portion of the cord.

The patient was a male, eighteen years of age, with good family history. After exposure to cold, in a few days he complained of general weakness, had fever, some pain in the back, and cramp-like pains in the legs. Some diarrhœa. Within four days there was loss of power in both legs, and partial paralysis in both upper extremities. There was temporary inability to void urine, and some difficulty in swallowing. The muscles of the trunk were also paralyzed; both knee-jerks absent; loss of most of the superficial reflexes. Sensation was unimpaired. No muscular pain or tenderness over the nerve-trunks. All muscles reacted to faradism. The patient gradually lost strength and died of respiratory paralysis on the twelfth day.

From a study of the clinical features of the case the diagnosis lay between acute multiple neuritis, acute myelitis, Landry's paralysis, and polio-myelitis anterior. The author thought it probable that in the early stages of polio-myelitis there is a hyperæmia or inflammation of the cord in the affected areas, which is not confined to the anterior horns.

Polio-myelitis Acuta Adultorum.—DR. W. C. KRAUSS, of Buffalo, presented the history of a case of this disease. Patient was forty-three years of age, and was always strong and healthy. Antecedent history was good. Both grandparents passed through severe attacks of measles, between the thirty-fifth and fortieth years. The father likewise had a severe attack when thirty-four years of age. Some members of patient's family had shown evidences of insanity. The patient had a severe attack of measles in his thirty-eighth year. He remained in poor health. In his fortieth year, after a few days of fever and pain in the neck, extending down the spine, he became paralyzed in the body and limbs. The head and neck only were capable of voluntary motion. There was no objective sensory disturbance. The extremities were cold and cyanotic. There was some improvement after three or four weeks. He examined patient nine months after onset of attack, and found all four extremities more or less paralyzed. The muscles of the back had regained power. There was

absence of faradic irritability in the paralyzed muscles. No sensory disturbance. There was atrophy, cyanosis, and œdema. All of the reflexes were absent. The author was not willing to admit that the measles was capable of precipitating a serious spinal lesion, but believed that when neuropathic or psycopathic tendencies are inherited all infectious diseases engender to a greater or lesser degree organic nervous affections. It is worthy of note that so little, if any, improvement took place after the subsidence of the general symptoms. The points of difference between the symptoms offered and those of acute anterior polio-myelitis caused him to hesitate before coming to a conclusion, and he believed that his diagnosis needs confirmation by a necropsy.

Dr. Charles K. Mills said the association of polio-myelitis with multiple neuritis was of comparatively frequent occurrence. There was a type of infantile paralysis of this description, and he had seen a case. The patient, seven years of age, had diphtheria, which was followed by an attack of sensitiveness over both lower extremities. Eventually there was paralysis of a group of muscles in one leg. He thought the question of infectious diseases causing multiple neuritis in association with polio-myelitis an interesting one. This was, however, more likely to occur as a result of various toxic agents. In a patient under his observation the paralysis was general, but recovery supervened. There was probably a combination of both lesions. He had years ago directed attention to this concurrence, particularly in arsenical poisoning.

Dr. R. T. Edes thought Dr. Mills's point a good one, but doubted if this concurrence is only confined to infectious diseases, but might also result from alcohol.

Dr. Knapp agreed with the preceding speaker. He had seen chronic neuritis in which there were signs of cord trouble. One case, observed many years, showed combination, but recovered.

Dr. Walton spoke of a case of multiple neuritis from lead, with atrophy, ataxia, etc., who died after spinal symptoms and cystitis. Absolute differentiation between spinal and peripheral lesions, owing to their co-existence, is sometimes unnecessary.

Dr. C. L. Dana disliked to have the impression go abroad that there is no definite lesion in these cases. In all cases of acute or subacute neuritis from alcohol, rheumatism, etc., the lesion was confined almost exclusively to the peripheral nerves. He has numerous specimens in his laboratory to substantiate this view in connection with the clinical histories. In cases of chronic neuritis he was not so positive.

Dr. C. H. Hughes believed that peripheral neuritis is a settled fact, and can generally be diagnosticated. He referred to our errors in earlier days, and was of the opinion that most cases of myelitis were due to exposure to cold, when not occasioned by traumatism. He agreed with Dr. Krauss in reference to the relation of measles to polio-myelitis. He believed all zymotic diseases frequently affected both the central and peripheral nervous systems.

Dr. E. D. Fisher referred to Charcot's work on poly-neuritis, and agreed with the previous speakers. He thought the combination more frequent than was supposed. He differed from Dr. Dana, but believed the changes in the cord may exist, but are not discoverable by our present means of examination.

Thomsen's Disease.—Dr. Walton then read a paper describing a typical case of Thomsen's disease. All muscles were affected, including the eyelids and muscles of deglutition. The patient was twenty-nine years of age, and the trouble had been stationary since his fifteenth year.

Dr. Angell, of Rochester, read the history of two similar cases.

Dr. Hughes maintained that Thomsen's disease is an affection of the muscular system, and doubted the entity of such a disease. Thinks it a peculiar form of symptomatic condition. It differs from every kind of spasm with which we are familiar.

Astasia-Abasia.—Dr. Knapp read a paper on this subject, and gave Blocq's definition of the affection as "a morbid state in which the impossibility of standing erect and walking normally is in contrast with the integrity of sensibility, of the muscular strength, and of the co-ordination of the other movements of the lower extremities." The author had collected forty-nine cases by various writers, and reported one under his care. The patient was fifty-eight years of age. Movements were made with fair strength while lying down. Spasm comes on suddenly and limbs get rigid. Physical examination negative. Tonic treatment was inefficacious. He subsequently developed retropulsion and resembled a case of paralysis agitans. Some difficulty in articulation and voluntary movement. Thinks the case may develop into paralysis agitans. The diagnosis is not always clear. The affection cannot be regarded as a morbid entity, but should be studied as a symptom complex. Best results are obtained by moral treatment and substitution of volitional for automatic movements.

Dr. G. M. Hammond thought that the way to show that the affection was not organic was that the patient could perform walking movements while recumbent. His case had not improved under various known methods of treatment. The only remedy he found of efficacy was bicycle riding, and his patient can now ride a bicycle. He considers the affection as one of the manifestations of hysteria.

Dr. Walton looked upon it as analogous to hysterical aphonia, etc. If not identical it is allied to it. He would not lay so much stress on the absence of stigmata of hysteria as Dr. Knapp. He had observed a case, and thought the prognosis no different from that of hysteria.

Dr. Dana wished to corroborate Dr. Knapp's suspicion of his case being one of paralysis agitans. He had a patient with abasia who was a manifest case of paralysis agitans. There was the peculiar gait and rigidity, and he was frequently obliged to stop suddenly while walking.

In paralysis agitans cases there is, however, no astasia. They are always able to stand.

Dr. Hughes said that older writers like Weir Mitchell and Charcot described these cases as hysteria. It has been left to modern neurology to show that hysteria may co-exist with organic disease. Blocq had found these cases in connection with the rheumatic condition. He thought hypnotism might prove of aid in diagnosis.

Dr. Bullard had a case of typical astasia-abasia without any other hysterical manifestations.

Dr. Knapp, in closing the discussion, said he wished to emphasize the fact that there was no actual loss of power.

AMERICAN GYNECOLOGICAL SOCIETY.

Sixteenth Annual Meeting, held at Washington, D.C., September 22, 23, and 24, 1891.

A. Reeves Jackson, M.D., of Chicago, Ill., President.

First Day, Tuesday, September 22d—Morning Session.

Address of Welcome.—Having thanked the society for the honor conferred upon him in electing him president, which he declared was undeserved, Dr. Jackson introduced Dr. Joseph Taber Johnson, of Washington, who read an address of welcome. In it he called attention to the advantages gained by a congress of medical societies, such as was now being held in the city, to the points of interest in the capital, and expressed the sorrow which he felt in common with the other members at the death of Dr. Barker.

The Advantages of Mixed Narcotics in Gynecological Surgery.—Dr. John R. Reeve, of Dayton, O., read the first scientific paper. By this method he meant preceding the anæsthetic by a hypodermic injection of mixed atropia and morphine. He had used this method

twenty years. Had never had a death, nor indeed serious symptom, under this form of hemorrhage. He summarized the advantages of the method as follows: 1. The emotional excitement was allayed. By the morphia dread and apprehension were made to disappear, the nervous system yielded readily and kindly to the anæsthetic. 2. The anæsthetic was more rapidly and steadily introduced, the stage of excitement being brief. 3. The feeling of suffocation during the administration of ether was much lessened. 4. Anæsthesia was not only more readily produced, but was far more steadily maintained. 5. Absolute quiet was a marked feature of the mixed method. 6. A period of quiet rest and freedom followed the operation. 7. Vomiting, so deleterious in many ways, was lessened. He had rarely seen a case of severe vomiting after mixed anæsthesia. He had succeeded in finding records of only three deaths during mixed anæsthesia, in one of these a dangerous amount of morphine having been injected.

Mention was made to the use of this method first by Nussbaum, to the experiments of Bernard, the physiological action of atropia and morphine, etc. The combination usually had been with chloroform, but the author used one-half ether.

Dr. Sawyer had employed the combination of morphine and atropia injection with chloroform inhalation in the second stage of labor with much satisfaction and relief of suffering.

Dr. Howard said that in the hospital with which he was connected, in Baltimore, they had given up the use of chloroform after having had three deaths from it. They now used ether, preceding with an injection of a solution which included atropia and morphine.

Dr. John Byrne, of Brooklyn, N. Y., used ether after injecting a solution of morphine and atropia, and where he had neglected the hypodermic injection his patients invariably suffered from the neglect, more ether was required, there was greater violence, severer vomiting, etc.

Accidental Hemorrhage Occurring During the First Stage of Labor at Term.—Dr. H. C. Coe, of New York, read the paper. Little had been added to our knowledge of the subject since the appearance of Goodell's paper, twenty years ago. It was the writer's purpose not to discuss the entire subject of accidental hemorrhage in the gravid womb, but simply that form which occurred during labor. This was not only the more infrequent but the more fatal form, and was rarely of traumatic origin. A case was recited.

Etiology.—The etiology was obscure. Predisposing causes were hemorrhagic diathesis, general febrile affections, renal troubles, death of the fœtus, hydramnios, diseases of the placenta. Irregular uterine contractions had been noticed in twenty per cent. of the cases. Undoubtedly in a certain number of the cases the cause was shortness or twisting of the cord. The accident could not be ascribed to a single etiological factor in a non-traumatic case. There was usually a combination of several.

Symptoms.—It was important to bear in mind that there were two sets of symptoms, initial and final. Most writers affirmed that the latter alone were reliable, and were recognizable too late for successful interference. But the writer believed it possible to detect accidental hemorrhage at its inception by careful attention to the initial phenomena, especially irregularity and feebleness of the labor pains. The patient complained of pain in the lower part of the abdomen which gradually grew worse and assumed a bursting character. External palpation might at first reveal nothing abnormal. Auscultation of the fœtal heart showed it feeble and irregular, showing the fœtus was being subjected to some serious disturbing influence. Patient restless, but able to sit up, pulse not affected. The ordinary observer might mistake the case for one of uterine inertia. These symptoms should lead one to suspect internal hemorrhage. External bleeding had been absent in three-fourths of the cases reported. The more advanced symptoms could readily be recognized.

Prognosis.—This was so bad that unusually favorable statistics led to the inference that the cases were not serious ones. In order to save mother and child, or even the mother alone, there must be a combination of favorable circumstances—skill and promptness of attendant, unusual resistance to shock, efficient treatment of the uterus after delivery. It should be assumed the child would perish, and all attention should be devoted to saving the mother.

Treatment.—There was much want of unanimity of opinion as to the treatment of these cases. Some advised immediate delivery, others delay. The writer disapproved of rupturing the membranes and administering ergot when there was no prospect of immediate delivery. It did not overcome the obstacle to delivery and might cause continuation of the hemorrhage. The writer's plan was: As soon as the accident was recognized to vigorously stimulate the patient by mouth, rectum, and hypodermatically while sending for aid. Under complete ether anæsthesia the os should be carefully dilated manually, Barnes's bags being only employed when the os was rigid and patient's condition such as to allow a certain amount of dilating. The membranes should be preserved intact. Perform version with unusual care. At this stage administer ergot freely by injection. A short delay before extraction in order to give the uterus time to recover its tone. If the head were engaged and the os could be readily dilated, the membranes should be ruptured at once and craniotomy performed instead of losing time to deliver with the forceps. The most important step was to prevent post partum hemorrhage. The hand should be introduced into the uterus, placenta and clots removed, and the cavity at once tamponed with iodoform gauze.

Dr. Charles Jewett mentioned the friability of the vessels and conditions which favored easy separation of the placenta or etiological factors in the causation of the severe hemorrhage mentioned in the paper. He thought an abdominal bandage might be of some service where the membranes were yet unruptured. Precipitate interference in bringing on labor had often hastened death by adding shock and perhaps further hemorrhage to the loss of blood which had already taken place. He also spoke of the value of tamponing by iodoform gauze in order to check hemorrhage of different forms in obstetric practice.

Dr. R. A. Murray had seen a few cases of severe hemorrhage before labor, which he referred to in emphasizing the fact that the treatment after dilatation of the os must differ from that which should be practised before. Dilatation not having occurred, he introduced an iodoform tampon, had the arteries of the upper and lower extremities compressed by assistants, feet elevated in order to drive the little blood left to the brain and keep up life when delivery did take place; a basin full of clots escaped. The patient lived. Had labor been induced hastily he was satisfied the patient could not have withstood the additional shock. Stimulants were also indicated.

Dr. Frey thought Porro's operation would be justified in cases in which the cervix was not yet dilated. It could hardly increase the present mortality-rate.

Dr. Raymond had seen in consultation one case which proved fatal immediately after delivery, in which a striking feature was extreme thinness of the entire uterine walls.

Dr. Skene facetiously suggested as prophylactic against these cases of hemorrhage removal of the ovaries.

Dr. T. Addis Emmet suggested inversion and ligation of the uterus.

The Therapeutic Aspect of Some Ovarian Disorders.—Dr. Edward W. Jenks, of Detroit, Mich., said it was his object, in writing a paper with this title, to direct attention to the merits and demerits of well-known modes

of treatment in certain ovarian diseases. He had in mind more especially surgical treatment, not excluding electrical. In general, the paper was a plea for more conservatism with regard to removal of the ovaries. Battey's operation was being done in every hamlet of the land, often by inexperienced physicians, who neither exercised judgment in the selection of cases, nor were prepared to give the patient the advantages of an operation skilfully and aseptically performed.

AFTERNOON SESSION.

Insanity Following Gynecological Operations.—DR. J. M. BALDY, of Philadelphia, read the paper. He had, by correspondence with physicians in the institutions for the insane in Pennsylvania, elicited the information that in eight (those making reply) there had been only fifteen cases of insanity in which laparotomy had been performed. In eleven of them there had been pre-existing insanity. Yet insanity following gynecological operations was more frequent than the figures would indicate. Many of the cases were mild and did not reach asylums; some of the more severe terminated quickly, as one of his cases, in which death took place about four days after the operation. He had had one other which recovered. His conclusions were: 1. That cases of serious mental derangement might occur after operation in a person without a family history of insanity. 2. That mental disorders were no more likely to follow operations on the sexual organs than on other parts of the body. 3. That the accident was as frequent in men as in women. 4. That operations acted as a determining cause to mental derangement where there was a previous tendency. 5. Emotional disturbance is greater at the time of surgical procedure; if predisposition to emotional disturbance, surgeons should not operate unless the necessity were urgent. 6. Mental derangement following operative procedures is more frequent than is generally supposed.

A Clinical Study of Primary Carcinomatous and Sarcomatous Neoplasms between the Layers of the Broad Ligament.—DR. JOSEPH E. JANVRIN, of New York, said that in reporting three cases of the kind he was aware that he was dealing with a condition which had seldom been reported up to the present time, excepting the cases of malignant disease of the ovaries proper. He had learned of several other cases by conversing with his medical acquaintances. The author here gave detailed histories of three cases seen by him the past three years, in which a careful pathological examination was made by Dr. W. H. Porter. The first was a myxo-sarcoma, the third an adeno-sarcoma, the sarcomatous element predominating. The second showed a carcinomatous patch within the folds of the broad ligament. In the first there was a distinct history of trauma by repeated injections of ergotine into a supposed uterine fibroid by a homœopathic physician. In one somebody had tried galvanism. The cases showed that improper treatment might act as a determining cause in giving rise to malignant change; further, that such change might take place primarily in the broad ligament.

The Present and Improving Status of Cæsarean Surgery.—DR. ROBERT P. HARRIS, of Philadelphia, the author of the paper, being absent, it was read by Dr. Parrish. The arguments advanced were based on statistics, especially those of recent date, in their bearing upon improving Cæsarean surgery. The paper also compared the results of improved Cæsarean section, or what was generally spoken of as Sanger's operation, with the Porro. Greater success now attended improved Cæsarean under like conditions. There had been greater success in Europe than in America, which could be accounted for by a knowledge of the conditions before the operation, and the management during and after. Formerly, the conditions were better in the patient's home, now in the maternity hospitals. The difference in kind of cases here and in Europe would largely account for the more successful results in Europe. From a personal observation of Cæsarean section, the author took a hopeful view, regarding the operation as one *per se* attended by moderate risk under favorable circumstances. He had seen thirteen operations, with eleven maternal recoveries. He thought the mortality could be reduced to ten per cent. To improve our statistics we should, 1, make the operation one of election; 2, perform it either before labor, or early in its progress; 3, urge antiseptic treatment of cases; 4, cease experiments; 5, use the elastic tubing of Esmarch—many preferred strong manual compression to control uterine hemorrhage; 6, evacuate the uterus without the abdomen when it contained a dead fœtus, especially if associated with septic fluid and gas; 7, wash out abdomen by pouring in distilled water at 105°, or 110° F. where blood had entered, or there was threatened collapse; 8, collar the stump; 9, antiseptic management of the stump exterior to the sewed line by isolating it, by means of prepared packing; 10, preparation for drainage where required.

DR. H. J. GARRIGUES, objected to giving the name Sanger operation, as many had performed it before Sanger wrote his book. Cæsarean section was safer than the Porro. Hospital management here being different from that in Germany, partly accounted for the difference in results. Craniotomy was safer where there was a choice, child being dead.

Drs. Fry, A. P. Dudley, H. C. Coe, R. A. Murray, Parrish, and Egbert H. Grandin, continued the discussion, the latter by letter.

AMERICAN DERMATOLOGICAL ASSOCIATION.

Fifteenth Annual Meeting, held at the Shoreham Hotel, Washington, D.C., September 22, 23, 24, and 25, 1891.

FIRST DAY, TUESDAY, SEPTEMBER 22D.

President's Address.—DR. GREENOUGH, of Boston, the retiring president, reviewed the work of the Association from its birth, fifteen years ago, and showed how this Association had joined with other special societies to form the Congress of American Physicians and Surgeons now in session.

Nomenclature.—DR. WHITE, of Boston, reported for the Committee on Nomenclature and Classification that hereafter, instead of the classification hitherto in vogue, arranged according to classes, the committee recommended the Association to adopt an alphabetical nomenclature. This report and recommendation were accepted. It was further voted to publish a provisional nomenclature in alphabetical order, to be modified, if necessary, at the next annual meeting.

Dermatitis Hæmostatica was the title of a paper read by DR. KLOTZ, of New York. The affection is one which, though commonly encountered, especially in public practice, finds no place in the classification of this Association as it now exists. The disease is characterized by a varicose condition of the veins of the lower extremities, obstructed circulation, inflammation, infiltration, local hemorrhage, superficial ulceration, etc. Unfavorable positions of the extremities is one of the most important causes of the venous obstruction which determines the condition. The legs in this dermatitis are often the seat of hard infiltration, pigmentation, minute hemorrhage, and lack of elasticity in the skin.

DR. BRONSON agreed with DR. PIFFARD that the name was not a very appropriate one, and the reader acknowledged the justice of the criticism, while failing to suggest a better one.

Erythema Multiforme.—DR. DUHRING, of Philadelphia, read this paper on a case of Universal Erythema Multiforme. The eruption occurred rather suddenly in a patient who had complained of rheumatic pains, nausea, etc. The eruption was at first an undoubted erythema multiforme vesiculatum. This was followed by a general desquamation as in dermatitis exfoliativa. In the writer's

experience the case was unique, and shows how the features of distinct affections may blend or follow each other in quick succession.

DR. FOX had recently seen a case much like the one described in a patient who had been taking copaiba. He believed, however, that two such affections can follow or run into each other.

DR. DUHRING said that all drugs as etiological factors had been excluded on careful inquiry.

An Unusual Case of Sarcoma was described by DR. SHEPHERD, of Montreal, which involved the skin of the left arm, producing deep ulcers and numerous dense nodules. Amputation was resorted to, but recurrence took place and the patient died of sarcoma of the stomach. Examination showed the case to be one of spindle-celled sarcoma, with tubular adenoma of the sweat-glands.

Multiple Sarcomata.—DR. SHERWELL, of Brooklyn, read the history of a case which showed marked amelioration under large doses of arsenic. These were well tolerated, and when intermitted the improvement was suspended. Four parts of Fowler's solution were added to one of Donovan's solution, and of this combination the dose was run up to thirty drops three times daily, increasing by one drop each day; the daily dose of arsenic being at times as much as one grain. Tolerance was very marked. The tumors, which were very numerous, had been subsequently removed surgically by Dr. Wheeler, of Burlington, Vt., and after an interval of comparative health the patient had succumbed to the disease.

Lympho-sarcoma.—DR. ZEISLER related a case of lympho-sarcoma in which arsenic had given excellent results. In pigment sarcoma no good results had been seen. Zoster had followed the use of the arsenic in this case.

DR. HYDE also gave evidence of the curative effect in sarcoma.

DR. ROBINSON related an instance in which as much as sixty drops of Fowler's daily had not been followed by any improvement. He looked upon sarcomatous growths as of probable parasitic origin.

Hydrargyrum Formemidatum in Syphilis.—The use of this drug by hypodermic injection was the subject of a paper by DR. R. B. MORISON, of Baltimore. This remedy was introduced by Lieberich some years ago and recommended in one per cent. neutral solution, as being free from the dangers of abscess formation. Good results are to be noticed after the fifth or sixth injection. The reader illustrated his paper with numerous clinical cases, in which he had employed the remedy with good results. One injection is given every second day, of from twenty to thirty minims or more of the solution. The method is regarded as a valuable addition to our means of treating syphilis, and in over a thousand injections abscess was not noted, though some pain is produced.

DR. KLOTZ does not use the milder soluble salts any longer, finding them unnecessary, as internal treatment suffices for the milder cases. In severe syphilis the insoluble salts are employed by him in preference.

DR. GREENOUGH had found patients unwilling to submit to hypodermic treatment, and unless the time of treatment was much shortened, he did not see the advantage of this method over inunctions.

DR. MORISON regarded the injections as of value for those patients who would not take the inunction cure, and as a method "to fall back upon."

Lichen Scrofulosorum was the title of a paper by DR. GRINDON, of St. Louis, illustrated by a case in the person of a lady aged twenty-one, which had existed for about a year. Only one other case had been seen in St. Louis, so far as the writer knew, and it was on account of the rarity of the disease that this case was reported. The anatomical lesion was regarded as a keratosis rather than as an acne.

DR. ROBINSON had seen several cases of so-called lichen scrofulosorum, and did not think they could be confounded with acne. He believed the distinctive name justifiable.

DR. PIFFARD had seen but one case, and that twenty years ago, but Hebra's description was so plain that he thought there was no excuse for confounding the disease with keratosis follicularis or any other well-recognized affection.

DR. ZEISLER believed firmly that the disease does exist. In the case which he had seen there was coincident scrofulous ulceration of the glands. He looks upon the eruption as a lichen in a scrofulous subject, but not as a scrofulous lesion in itself.

DR. FOX referred to cases in connection with acne cachecticorum, but admitted that the eruption might occur in those not distinctly scrofulous.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Thirteenth Annual Congress, held at the Arlington Hotel, Washington, D.C., September 22, 23, and 24, 1891.

FIRST DAY, TUESDAY, SEPTEMBER 22D.

THE calling of the roll showed about twenty-five members in attendance.

The President's Address was delivered by DR. W. C. GLASGOW, of St. Louis. He alluded to the past history of the society, considering that in its honest work it had most amply justified its formation. It should always be maintained as a separate organization. Many recent graduates and poorly instructed post-graduates have gone into this specialty, deeming it necessary only to own a spray, a saw, and a cautery to pose as laryngologists. The Society should stand as a bulwark against such ignorance and empiricism. It could be maintained at the proper standard of efficiency only by a full attendance at its meetings. To neutralize indifference in the matter of attendance, a yearly infusion of new blood was necessary, and hence it was proposed to enlarge the membership. Useless members should be dropped, as the Society was never intended to be a large one. Two members had died during the year, Dr. Hosmer A. Johnson and Dr. Ethelbert Carroll Morgan, and a warm tribute was paid to their memory.

A Case of Foreign Body in the Trachea was reported by Dr. Glasgow. A colored child, eight years of age, had swallowed a toy balloon. She had severe choking, with cyanosis, aphonia, etc., but the attack passed off and respiration was perfectly quiet in the interval. These paroxysms with subsequent quiet spells recurred several times. She had no dysphagia. Exploration revealed nothing either in the larynx or trachea. She frothed at the mouth and in the paroxysms resembled an epileptic. Lower tracheotomy was performed, but a sound passed to the tracheal bifurcation revealed nothing. A cannula was worn five days. Then after a coughing spell a red mass was found at its inner opening. This proved to be the rubber portion which, in removal, was torn off from the wooden mouth-piece. The latter was coughed up above the glottis and removed through the mouth. The wooden portion had probably reached down the left bronchus, as determined by a whistling râle on that side with diminished breathing during the paroxysms. The rubber lay at the bottom of the trachea, but was so soft that it was not appreciated by the sound. The paroxysms were probably caused by the cough from irritation, driving the balloon up into the grip of the cords, which after awhile relaxed and let the foreign body fall down into its original resting-place. The recovery was rapid and complete.

Thyrotomy in a Child Eighteen Months Old.—DR. CLINTON WAGNER, of New York, read a paper with this title. Thyrotomy should be done for urgent dyspnœa from obstruction due to benign neoplasms or a foreign body; in malignant disease only when the operation fairly promised a thorough removal of the neoplastic material; it should never be done in tuberculosis. Dr. Wagner had

operated ten times, six for malignant disease, in which all the patients died from a recurrence, and four times in children. The age of the patient in the present case was the youngest on record. The operation was done before a positive diagnosis had been made as to the cause of dyspnœa, lasting three months, in a child who had been exposed to cold and wet. She also suffered from nightly spasms of the glottis, the least cause sufficing to bring on an attack. Tracheotomy was first performed, and then, after two weeks, thyrotomy, the postponement of the case being due to the patient's poor general condition. A small papilloma was found on the posterior part of the left cord. The child did well, and the function of the larynx was fully restored, the voice steadily returning. While the cannula was still being worn she died of the grip, eleven months after the operation. The corking up of the cannula showed that the larynx was pervious, as she breathed perfectly well.

Dr. C. C. Rice, of New York, spoke of the desirability of making a positive diagnosis previous to operating. If we lessened reflex action with a weak cocaine solution, and then gave just enough chloroform to render the patient unconscious, we might in children be able to make a thorough laryngeal examination and operate per vias naturales. In the latter event, as soon as the child began to struggle and get cyanotic, we could intubate. Then, as soon as the patient was quiet, we could remove the tube and proceed again. He had tried this alternating method with success.

Dr. E. Fletcher Ingals, of Chicago, advocated the use of the finger in diagnosing a laryngeal obstruction in the child anywhere above the cords. Drs. J. N. Mackenzie, of Baltimore, and J. C. Mulhall, of St. Louis, also discussed the paper.

The Tonsil in Health and Disease.—The paper was read by Dr. Harrison Allen, of Philadelphia. The tonsil is an association of diverticula on the side of the pharynx. On the walls of these diverticula appear follicles and mucous glands. The former are closed sacs, and not open spaces. These facts are contrary to current clinical expressions. The lingual tonsil was a simple, and the faucial a compound, structure on the above type. Crypts are produced by a depression of groups of diverticula, thus forming a central opening. The morphology is greatly disturbed by diseased action. The tonsil, as a whole, is a rounded mass with a crypt pointing downward, the whole mass being compressed more or less by the palato-glossus muscle. The whole pocket in which the tonsil lay is lined by the "involucrum of Haller." In hypertrophy it is the lower part alone which is enlarged. Higher up is a small "velar" tonsil, so called, which if enlarged is the supernumerary tonsil of some authors. The latter may be pedicled.

The functions of the tonsils are unknown. They are large in children, and in size seem to be in inverse relation to the thymus gland. They are also relatively large at the time when hæmatophoretic changes are taking place in the marrow of the long bones. Unlike the Peyer's patch, they seem to have no relation to any specific morbid process. The frequent occurrence of tonsillar diphtheria is merely due to the mechanical entangling of the contagion.

Very often pellets exist in the crypt. We should look for its mouth, slit it up and sear the edges with a cautery. In hypertrophy we have intercommunicating canals or sinuses through the tonsil. This condition is usually associated with adenoid disease of the pharynx. The latter should first be removed and the tonsillar fistula slit up. Tonsillotomy will not then be necessary. Any operation to be successful must conform to the morphology of the part operated on. This the transverse incision of tonsillotomy does not so do. After the slitting up, outlying tags of tonsillar tissue must be removed and a free use made of astringents.

Tonsillar cysts are rare. Abscesses are generally peritonsillar, but we may have a true chronic abscess containing a very little pus but keeping up a constant irritation for years and years. Incision must not be made too high up. Suppurative tonsillitis, so called, is not always peritonsillar. Incision rarely causes any hemorrhage. The internal carotid is never injured. The blood escaping comes either from an abnormally large branch to the tonsil or from an enlarged ascending pharyngeal.

Dr. Jonathan Wright, of Brooklyn, had found it preferable to remove enlarged tonsils before operating for adenoid, because he believed the growth of the latter to be caused often by the damming up of the vaso-pharyngeal secretions of the tonsil masses. When the latter were removed the former would often disappear.

Dr. J. O. Roe, of Rochester, advocated the use of the sharp scissors in opening these abscesses—after the method of Hilton. Drs. Rice and Mackenzie also discussed the paper.

Dr. Allen, in closing, called attention to the fact that enlarged tonsils became smaller under anæsthesia, and were by the lateral pressure of the tongue made to appear at their largest when the mouth was open.

The Troublesome Symptoms caused by Enlargement of the Epiglottis, and the Advisability of Reducing the Size of this Cartilage by Operative Measures.—A paper with this title was read by Dr. C. C. Rice, of New York. The enlargements due to syphilis, tuberculosis, and lupus were well known. The mechanical symptoms were tickling, a sense of fulness in the throat, empty swallowing cough, and, as a sequel, even a chronic catarrhal laryngitis. When the lingual tonsil was enlarged, or there was any cause of irritation between the epiglottis and the tongue, all these symptoms would appear. He believed also that there was a true hypertrophy of the cartilaginous elements of the epiglottis, in many instances giving rise to the same train of disturbances. The mucous membrane became congested and inflamed. The organ fluctuated in size and was always more or less congested, while the congested condition of the larynx, having been once set up, remained stationary. The epiglottis might be congenitally enlarged. It was often pendulous, due to relaxation from hot climates. Its enlargement might be due to injuries, tobacco, alcohol, gastro-intestinal disturbances, or the general congestion of visceral disease. Rarely was it œdematous.

To treat the condition, surgical interference was necessary. Astringents were useless. The galvano-cautery was followed by too much inflammatory reaction to be safe. Cocaine would relieve and perhaps cure a mild case. He followed its application with a coating of one of the oily products (albolene, etc.). Long-bladed scissors or cutting forceps seemed to promise the best results, and were better than special epiglottitomes. He had operated in two cases.

Dr. Mulhall, Drs. Vanderpoel and Jarvis, of New York, and Dr. Wagner took part in the discussion. Dr. Vanderpoel advocated the use of a sharp spoon or curette. Dr. Jarvis regarded the effect of the cautery as often merely psychical.

The Result of Treatment of the Upper Air-Passages in Producing Permanent Relief in Asthma.—A discussion on this subject was opened by Dr. F. N. Bosworth, of New York. Asthma was due to a conjunction of three factors—a neurotic habit, a morbid intra-nasal condition, and some exciting atmospherical state. In treating the nose, an effort should be made to bring about the re-establishment of its normal respiratory function. Since his last paper on the subject he had seen 88 new cases. Of these 42 were cured, 32 improved, 2 unimproved, and the history of 11 was unknown. The criterion of a "cure" was the absence of recurrence for a year.

Dr. Beverley Robinson, of New York, called attention to the relation of uterine displacements, stomach derangements, fibroid pulmonary changes, malaria, kidney disease, letc., to the asthmatic paroxysm. A neuritis of many different peripheral nerves might cause it. It was a very one-sided view to regard the nose as the only seat of a local change standing in a causal relation to the disease.

Dr. Roe, of Rochester, regarded asthma as always due to some change in the bronchial mucous membrane. A preceding nasal abnormality is perhaps the most frequent antecedent cause, but the latter may set up many independent centres of irritation.

The discussion was continued by Drs. Wagner, Shirly, of Detroit; Mackenzie, E. Fletcher Ingals, of Chicago; Mulhall and Glasgow. The general drift of the discussion was that asthma in its causes was a Protean disease, and that to include in the necessary conditions of every case a nasal factor was entirely erroneous. What the other speakers called cardiac asthma, gastric asthma, etc., Dr. Bisnuth only considered as manifestations or causes of the neurotic state, which he mentioned as one of the three main factors of the condition.

AMERICAN CLIMATOLOGICAL ASSOCIATION.

Eighth Annual Meeting, held in the Grand Army Building, Washington, D. C., September 22, 23, 24, and 25, 1891.

First Day, Tuesday, September 22d.

President's Address.—The meeting of the Association was called to order by the President, Dr. F. S. Knight, whose address inaugurated the proceedings of the day. The deaths during the past year of Drs. Johnson, Kretchmos, Morgan, and Porrish, members of the Association, were mentioned with expressions of eulogy and regret, and a brief summary of the history and progressive advancement of the Association constituted the introductory portion of the address. The attention of the Association was called to the practical value of a careful study of our therapeutic resources in medical springs and natural waters, illustrated by the statement that one hundred million of dollars are annually spent abroad by Americans at health-resorts possessing no natural advantages over those of the United States. Much of this money could be retained in our own country by a judicious exposition of our resources in this respect. The President reiterated sentiments expressed at a former meeting, to the effect that much good might be accomplished in this direction by holding the annual meetings of the Association at different health-resorts. Physicians would thereby gain a personal and practical knowledge, and the proprietors of such resorts be stimulated to improve many faults now in existence. Conspicuous among such faults is the custom of promiscuous occupancy of the same rooms by the sick and the well, alternately. Apartments, in summer or winter resort hotels, occupied by patients afflicted with pulmonary tuberculosis should be disinfected under medical supervision. The cottage system represents the best practical solution of the question.

General versus Local Treatment of Catarrhal Inflammations of the Upper Air-tract.—Dr. Beverley Robinson read a paper with the above title. The author deprecated the tendency toward indiscriminate operative interference in cases of nasal obstruction *per se*. The nasal passages are unequal in so large a majority of individuals as to constitute almost a normal condition. If such obstruction from deviation of septum, etc., can be demonstrated to be a cause of disease, then it should be removed, of course. He did not believe, however, that nasal obstruction was so frequent a cause of disease of the nasal lining membrane or of the ears, eyes, and tonsils, as had been claimed. Warm medicated inhalations are serviceable in catarrhal inflammation of this region, but require added caution, as there is increased susceptibility upon exposure after using them. The nasal douche is often a two-edged sword, with ear trouble as a frequent sequence. A close and clear relation can often be demonstrated clinically between general constitutional state and local disease of the catarrhal type in the upper air-tracts. The author had seen many cases of nasal catarrh remain obstinately unaffected by local treatment, the condition disappearing, however, promptly upon the relief of a coincident and related gastric catarrh or torpid, inactive liver. Hypertrophy of the nasal mucous membrane often coexisted with gastric catarrh of the chronic type, which latter must be relieved before the tonsillar troubles will disappear, in many instances. Treatment by galvano-cautery often relieves, obviating the necessity for surgical removal. Cauterization is innocuous except in certain conditions of catarrhal inflammation of the nasal mucous membrane, characterized by great dryness and irritability, the formation of scabs and crusts, and a tendency to bleed easily. Carbolized vaseline, or better, Goulard's cerate freshly prepared, afforded great relief in this class of cases. He did not use as often as formerly the saturated solution of sulphate of copper, once a favorite application in such cases. The association and evident inter-relation of catarrhal affections of the upper air-tracts with the rheumatic and gouty diathesis, had been frequently observed by the writer. Such patients were not benefited by exclusively local treatment. A sojourn at some appropriate resort, with the free exhibition of alkaline and anti-rheumatic mineral spring waters would effect a cure. Enlargement of the lingual tonsil, a frequent cause of a most obstinate cough, which had been variously termed hysterical, anæmic, or nervous, often depended upon a rheumatic or lithæmic diathesis. He had seen it relieved by outbreaks of overt rheumatism. The mechanism of action involved in the production of this cough by enlargement of the lingual tonsil was through an irritation from pressure upon the epiglottis. Cautery would, at times, relieve this condition, but not always. Carbolic acid and glycerine applications are also effective in some instances. Globus hystericus is quite often due to the same cause—enlarged lingual tonsil. With regard to chronic laryngitis, he did not believe, with Bosworth, that chronic laryngitis was always a secondary condition, and due to obstruction or other nasal disease. Therefore, treatment should not necessarily be directed to the nasal cavities for the relief of chronic laryngitis.

In hay fever he considered local applications of rather more value than change of residence. A perverted condition of the peripheral nerves is responsible for many of the symptoms. Cauterization of this hypersensitive surface was often of great service. He was not prepared to express a final opinion as to the value of the ice-bag treatment, but had seen it render excellent service.

Finally, as regards the important question made necessary at times by expediency or financial considerations, "Shall the subject of catarrhal inflammations of the upper air-tracts be treated by the specialists or the family physician?" be assumed the position that the best interests of the patient are subserved by a broad view of the subject, much more likely to be taken by the general than the special practitioner, a position corollary to the demonstration of an intimate relation between the local symptoms and causative constitutional states of disease.

In the discussion which followed Dr. Bosworth, of New York, said that, while he believed naso-pharyngeal affections to be often clearly related to general disease, he considered nasal disease as a purely local affection. Local treatment for chronic nasal disease such as hypertrophy, polypi, etc., by sprays or astringent applications, emollients, etc., he thought utterly useless, and that surgical interference offered the only means for a permanent cure.

Dr. Ingals, of Chicago, thought that local treatment for catarrhal inflammations which were acute or subacute would often cure, but that they were useless in chronic affections of this type. He also agreed with the author of the paper, that in many instances there was an intimate causative relation between the local disease and some general morbid state. The phenomena of so called globus hystericus he had found due to spasmodic conditions of the œsophagus as well as to enlarged lingual tonsil.

Dr. Shurley, of Detroit, deprecated surgical procedures in cases of nasal disease, unless such a degree of stenosis existed as to make positive its relation as a cause of the catarrhal inflammation. He had examined carefully two hundred cases in which there was either deviation of the septum or some other abnormal state, and yet there had resulted no annoyance to the individual.

Gymnastic Exercise as a Prophylactic and Remedy in Chest Diseases.—A practical paper bearing the above title was read by Dr. Ott, of Boston, whose opportunities for observation as medical director of a city gymnasium had convinced him that in scientifically applied gymnastic exercise, there was to be found a most valuable prophylactic agent in diseases of the chest, and a means second to no other in certainty of results, for the maintenance of a sound and vigorous condition of the heart and lungs under the trying ordeal of an indoor life. He had repeatedly observed two conditions, especially, which are suggestive of future disease, and which are greatly benefited by appropriate gymnastics. First, a certain lack of vigor and firmness in the action of the heart—"sedentary heart"—often accompanied with overweight and shortness of breath. Such subjects have probably taken little if any exercise, and have led indoor, sedentary lives for years; second, poor and incomplete expansion of the lungs with diaphragmatic breathing and disuse of the intercostals. These conditions, though not representing actual disease, are a menace to the individual, placing him just within the border line of absolute morbid states of heart or lungs, as proving inadequate to do their part when unusual demands are made upon them.

For individuals of the sedentary heart class the gymnastic exercise appropriate (based upon data afforded by careful examination) is first, light, slow work, rapid walking or slow running, chest weights, gentle rowing, and free-hand exercise. If the case is one of poor lung expansion, he is put upon lung-expanding apparatus of various kinds, rowing, free-hand work, or class work with wooden dumb-bells. Swimming is one of the best forms of exercise for expanding the lungs. The spirometer, except for testing purposes, is of little value. Frequent physical examinations should be made and the exercise adjusted to varying conditions. Over-development of the chest muscles is often detrimental to good lung expansion. For the two classes described above appropriate gymnastic exercise, as indicated, will result in marked and rapid improvement, and the means here outlined may be utilized in actual disease of the lungs and heart under careful medical supervision. It is in line with the high altitude climatic method, and accomplishes much in teaching patients how to breathe properly, and in giving to the muscles of respiration the strength necessary to fulfil their function. This is especially of value in its effect upon the large class of diaphragmatic breathers, either with or without actual lung disease. The intercostals must be trained to do their share in the mechanism of respiration. The writer considers an eclectic the best system of gymnastic exercise.

Dr. Williams, of Brooklyn, in opening the discussion, expressed the opinion that proper breathing was the most important of all means of prophylaxis in phthisis. He thought it just as necessary to cultivate and exercise the diaphragmatic muscles as the intercostals in respiration. The speaker referred to some interesting observations made by him in a recent examination of Professor Checkly, the gymnast.

Dr. Gihon, of the U. S. Navy, desired to emphasize the radical importance of intelligent medical direction. He had noticed that the naval cadets who had, by reason of enthusiastic devotion to gymnastics and a high degree of training, become famous during their sojourn at the Naval Academy, had since died, many of them, of phthisis. They had either discontinued it abruptly upon leaving the Academy, or had been subsequently unrestrained by intelligent supervision. He had also observed at the Marine Barracks of the Brooklyn Navy Yard, that since the establishment there recently of a gymnasium for the men, over which there was no medical director, cases of hernia had greatly increased in number among the men.

Dr. Ingals, of Chicago, asked the writer of the paper the value of cycling as a means of exercise, especially in strengthening the muscular action of the heart. Dr. Ott considered cycling very valuable as an exercise for the heart. Riders, however, always sat with their shoulders thrown forward, and some corrective exercise should be carried out to correct a resulting defect in this respect.

The Climate of the Greater Piedmont and the Mountainous Regions of the South.—This was the title of an elaborate paper by Dr. Van Bibber, of Baltimore, in which the writer advocated the climatic and other natural advantages of the mountainous regions of West Virginia, North and South Carolina, Eastern Tennessee, Kentucky, and Northern Georgia, as affording a place of residence giving not only immunity from many diseases, but by reason of the influence upon race of physical environment, promoting the development of a high type of manhood, physically and intellectually. The races of this section, embracing about seventy-five thousand square miles, had reflected with high honor the effect of environment in forming certain mental and physical characteristics among the people, as witness the records of our nation's history. Originally the home of the Cherokee and Choctaw Indians, grain-feeders, and acknowledged superior in intelligence to other tribes living in the basins and toward the coast on either side, this was subsequently the section which gave to our country such men as Thomas Jefferson, Abraham Lincoln, Jefferson Davis, Andrew Johnson, and others of like stamp. This Piedmont region furnished more men to the Union army during the late war (140,000) than did many of the Northern States. It is accessible, attractive in its resources both mineral and agricultural, picturesque in its beauty, and has an advantage over other sections of the South in the fact that the race question can never be an issue, since the climate and air are inimical to the development of the negro. As to its healthfulness, the bacillus of Koch is unknown in a certain region of Western North Carolina and Eastern Tennessee, nor have any of the bacilli of malaria been found in the same section. He did not think the Piedmont climate of so much value in curing established disease of the lungs, but as a means of prophylaxis it had no rival.

Dr. Carl Von Ruck, of Asheville, N. C., could confirm the statement that consumption and malaria did not exist in the section of country referred to, among the natives. As to the effect of the climate, altitude, and air of this region upon established disease of the lungs, he believed positively in its curative value, having witnessed such results in patients under treatment.

ASSOCIATION OF AMERICAN PHYSICIANS.

Sixth Annual Meeting, held in the Grand Army Building, Washington, D.C., September 22, 23, 24, and 25, 1891.

First Day, Tuesday, September 22d.

President's Address.—The meeting was called to order by the President, Dr. William Pepper, of Philadelphia, who then read his annual address.

Discussion on the Treatment of Visceral Tuberculosis by Koch's Method.—Dr. F. P. Kinnicut, of New York, had treated a large number of cases of tuberculosis at St. Luke's Hospital in a short time: 13 were of pulmonary tuberculosis, 7 had surgical tuberculosis, 6 lupus, 5 joint trouble, 4 intestinal trouble, 2 bone trouble, 2 tubercular prostatitis, 1 epididymitis, and 8 had rodent ulcers. At

the end of a month some grew better and went to the country. He found that preparations of tuberculin prepared fresh for every injection is much better than kept solutions, especially than the carbolic acid solution, which he does not consider good. In pulmonary tuberculosis the result of the general reaction was a guide to reinoculation. The subsidence was graded by the patient's feelings and the general condition was considered. The inoculations were usually repeated at long intervals. In one case there was two weeks' interval between the inoculations. The same line followed in joint tuberculosis and in bone tuberculosis, and after each injection the strength was gradually increased when the local reaction had subsided. Of the 13 cases of pulmonary tuberculosis there were, *A*, those with noticeable improvement in every respect; *B*, those with improvement in some respects and not in others; *C*, those that deteriorated. Of class *A*, 5 cases were from 7 to 42 years old. There was a predisposition in 3 cases; 2 were of long duration. In all there was loss of strength and cough. In none was there a history of night-sweats. There was high temperature in 4 and not so in 1 before inoculation. In 4 there were physical signs and in the remainder there were no marked physical signs. The larynx was affected in one case; 3 improved in 11, 13, and 15 weeks and the worst symptoms subsided. There was a gain of weight and decrease in the amount of sputum, although at first the sputum was increased in amount; the sputum and cough were absent on discharge. There was bacilli in abundance in 4 and in 1 they could not be detected, although the clinical history undoubtedly pointed to phthisis. Prudden had counted the number. He diluted with a solution of borax in water and let stand in a jar and then counted on a cover-slip in portions of about one c.c. If there were, say 400,000 in a cubic centimetre there were about 800 on a cover-slip. In two cases the pulmonary signs almost disappeared, so improved was the case. There was no hæmoptysis. The cause of this disappearance of the signs and the improvement of the cases may have been due largely to the cod-liver oil and creasote the patients were taking, or to both, as such medication had been used before, but not, however, on improved diet and with such hopeful prospects. In class *B*, in several there were some very decided laryngeal symptoms. In class *C*, some cases, of which he gave long histories, got better at first, but after a long time got worse again, the apices softened and there were undoubted signs of a cavity.

In conclusion he thought that everyone recognized the very dangerous and ofttimes harmful action of this powerful remedy. There is a marked elective affinity of this agent for tuberculous tissue. Its value is relative and it does not cause immunity but a predisposition leads to this disease. It causes cough and general constitutional disturbances. It is not only harmful but it is not essential. It does harm by setting up the disease in distant parts of the body. These facts have been strengthened by chemical tests.

In pulmonary tuberculosis it may do good very early, but after the disease has once started it may do much harm. It is a cause of pneumonic symptoms and leads to the causation of hæmoptysis.

These remarks would not mean to show that the agent is altogether worthless. It has its uses if carefully employed, and it should have a future if used on incipient cases.

Dr. Harold C. Ernst, of Boston, thought that there was still something in tuberculin, and that we may be able to get from the pure culture of this organism a substance which when introduced under the skin will destroy the organism itself. He had treated 12 cases and 7 were not relieved. He recited at length the different prominent symptoms in each case and how each grew better or worse. He thinks there is a connection between the number of bacilli found in the sputum at each examination and the condition of the case. He showed several very excellent charts of curves, showing the condition of cases mentioned, in which some were greatly improved and others not. He repeated Koch's experiments in injecting rabbits and guinea-pigs with pure cultures of the tubercle bacillus and produced, as Koch did, the tuberculous nodules in these animals, but he could not remove them with injections of tuberculin as Koch pretends to do.

His conclusions are: 1, It has no diagnostic value and still less chemical value; 2, it did not seem to show beneficial results; 3, had had no personal experience with the ill-effects of the agent, but believed it could do much harm; 4, he would not use it again in practice; 5, it is a powerful agent and should be better understood.

Dr. William Osler, of Baltimore, had treated 28 patients in the Johns Hopkins Hospital. No case had been cured, 5 improved. In these the weight had increased from nine to fourteen pounds. In not one case did the bacilli disappear, cough improved. In 5 cases the disease was not very recent. Of 17, 9 left the hospital worse, and of those that left 1 died. None died while under treatment. He was much disappointed in the results.

Dr. J. P. Crozier Griffiths, of Philadelphia, had seen nineteen cases in the University of Pennsylvania. Of these few seemed to improve although some showed an improvement in general health, but no more than was due to the good diet and hope inspired by the treatment. In many after injections there appeared in the urine albumin and blood. The amount of reaction after injection was particularly slight. He had been much struck by this. He could not see any great use from the substance.

Dr. W. Pepper thought that tuberculin had some good in it, but it could do much harm.

The Climate of Southern California for Respiratory Diseases.—Dr. Norman Bridge read a paper on this subject. He said that many cases of both chronic and acute respiratory diseases come to this region and recover or greatly improve. Many such fail of recovery, or any notable improvement, and sink and die. The proportion between these two classes it is manifestly impossible to know. Cases of long standing are less likely to improve than those in the early stage of their progress. A large proportion of those that recover (although often called consumption, or tuberculosis) are probably cases of non-tuberculous bronchial inflammation, which almost invariably, sooner or later, greatly improve or entirely recover. But cases of true pulmonary tuberculosis do recover and pass years without appreciable symptoms. The proportion of tuberculous cases recovering is small in proportion to the whole number seeking relief. It is the nearly invariable rule that tuberculous cases come here after they have lost in delay most of their hope of improving under any conditions. The vast majority of such cases leave their distant homes without an examination for bacilli ever having been made, and in those in which the bacilli are searched for and found, too often it is after months of progress of the disease have left the patient with small hope of recovery anywhere—a neglect on the part of practitioners that cannot be too much deplored. While the climate has for invalids many advantages, it has some marked disadvantages. The chief one that obtains with all dry climates is the great variation of temperature between day and night, sunshine and cloudiness. People often forget this and poorly clothe themselves and insufficiently heat their rooms, and so take colds, sometimes to their lasting injury.

The Frequency of the Localization of Phthisis Pulmonalis in the Upper Lobes.—Dr. J. West Roosevelt, of New York, reported certain work which he has done bearing upon the reasons for the frequent localization of the earliest lesion of pulmonary phthisis in the apices of the lungs. If the bacilli are carried by the air-currents we must assume the existence of some mechanical disadvantages affecting the apical parts of the lungs. It is often stated that the upper parts of the chest move less freely than the lower. This statement is, however, doubt-

ful. Certainly in women the normal type of respiration is thoracic and the upper parts of the chest move freely, while in men the lower thorax and abdomen move most. If relative chest expansion determines the seat of the lesion, the marked difference between thoracic and abdominal breathing ought to affect its localization. It does not, however, for phthisis in the female has its earliest seat in the upper lobes, just as it does in the male. The anatomical peculiarities of the pulmonary artery are such that it seems very probable that it is through this vessel that the bacilli pass and are thrown into the upper lobes, in the form of minute emboli, and that these are arrested at the places where the relatively large arteriole suddenly breaks up into capillaries in the lobules. The bacilli may enter the system through the systemic veins or the lymphatics. In the latter case they might be absorbed by any part of the lymphatic system, including the lymph-vessels of the naso-pharynx, mouth, large bronchi, and digestive tract, and enter the vena cava through the thoracic ducts. Having entered the right ventricle, they would be propelled with the blood through the pulmonary artery. In this vessel the momentum acquired by them would cause them to run along the upper walls of the main branches and to enter the branches which supply the apices.

Dr. W. H. Welch, of Baltimore, had always thought that the embolic processes were less frequently found at the apex than at the base. This would be against Dr. Roosevelt's theory. The same is true of hemorrhagic infarction. We cannot turn from experiments of animals to the human being. The bacilli probably go as easily to one part of the being as the other, but the apex is probably in the best condition to support these bacilli, *i.e.*, they grow better in the apex of the lung. They do not get there better, but having got there they grow there better.

Dr. William M. Ord, of London, agreed with Dr. Welch's argument. It seems to be due more to this selective power of the lung than to its position. The apex has a special weakness. It is prone to small inflammations and abscesses. His friend, the late Sir W. Gull, had shown the same thing in the lungs of serpents and frogs and other batrachians. It is a want of resisting power. He cannot say whether any weakness has been found at the apex or not.

Dr. A. Jacobi, of New York, suggested that if someone would spend their time in these investigations on diseased and not on healthy lung tissue, the results would be more valuable. Tuberculosis will not attack healthy lung; diphtheria will not invade healthy mucous membrane. It must be diseased first. In children some forms of tuberculosis occur most frequently at the base.

Dr. V. Vaughan agreed with what Dr. Welch said.

Dr. F. C. Shattuck, of Boston, referred to the fact that emphysema often occurred at the apex, causing a bulging there. Would this not show that the apex had plenty of opportunity to expand?

Dr. Roosevelt said his theory was plausible, but he did not introduce it as a fact, but as a theory. He doubted if emphysema was a mechanical disease, as Dr. Shattuck seemed to imply.

The Sanitary Condition of Glasgow during a Cholera Epidemic.—Dr. W. T. Gairdner, of Glasgow, Scotland, gave a short history of his position as health commissioner in Glasgow, and how, during an epidemic of typhoid fever, he prevented a serious outbreak of cholera by enlisting the interest of the churches and religious bodies of the city, and disseminating by this means a knowledge of how to keep themselves and their surroundings clean. In this way the cholera which followed in the early fall came so lightly that there were few deaths, and the people everywhere had such a good knowledge of sanitary matters that the disease could not hold. He thought that in our large cities we could use our churches and religious bodies to disseminate ideas on hygiene as well as religion.

AMERICAN ASSOCIATION OF ANDROLOGY AND SYPHILOLOGY.

Fifth Annual Meeting, held at the Shoreham Hotel, Washington, D.C., September 22, 23, 24, and 25, 1891.

First Day, Tuesday, September 22d.

Reflex Irritations and Neuroses caused by Stricture of the Urethra in the Female, by Dr. Fessenden N. Otis, of New York. The author of this paper being in Europe, it was read by his son, Dr. W. K. Otis. Stricture of the urethra in the female, the author stated, has been so rarely considered or even referred to in works on the general diseases of females, or on the special diseases of the genito-urinary organs of the female, that it might hence be inferred to be a difficulty so rare or so unimportant as to be of little practical consequence. Symptoms in the female which in the male would be at once accepted as indicating the probable presence of urethral stricture, are often referred to under the title of "irritable bladder," and attributed to causes quite independent of their possible relations to the urethra. The fact that stricture of the male urethra is accepted as usually due either to gonorrhœal inflammation or to some traumatic cause, while the "irritable bladder" in the female occurs quite independently of any previous recognized inflammation or injury, tends doubtless to prevent the consideration of stricture as a possible cause of the trouble.

In regard to the origin of organic urethral strictures, in either male or female, the author was thoroughly convinced that the foundation of at least the largest proportion consisted of cicatricial deposits due to lithiasis at periods often long antecedent to the gonorrhœa to which they are attributed. Dr. Otis then gave the histories of four cases of strictures of the urethra in the female, causing reflex troubles as varied and severe as those occasionally caused by stricture of the urethra in man. These cases were relieved by removal of the strictures. The author suggested the desirability of early exploration of the urethra by means of the urethrometer or the bulbous sound, in order promptly to eliminate at least one important element of failure in the diagnosis and treatment of such cases.

Dr. Robert W. Taylor, of New York, stated that he had seen a number of cases of stricture of the urethra in the female, some as small as No. 4 French, and two of these cases had occurred without known cause. In dividing these he had used a small grooved probe, and then cut them with a bistoury. These patients presented no symptoms excepting those common to compression of the urethra due to chancroidal or other growths at the meatus.

Further discussion of this paper was then postponed until Friday morning, when the general subject of urethral strictures will be taken up.

Genital Chancres in Women.—Dr. Robert W. Taylor, of New York, read a paper with this title. He stated that while chancres of the genital organs are very common both in men and women, extra-genital chancres occur more frequently in women than they do in men. That in women they are less regular in their course, and are often so small, benign, and ephemeral that they may never be seen or their nature not suspected. For clinical purposes genital chancres in women are classed as follows:

1. The superficial or chancrous erosion. This appears first on the mucous membrane, and is very liable to be mistaken for a ruptured herpetic vesicle, an abrasion, or a scratch. It is so benign in appearance that its nature is frequently not determined at the first examination. It begins as a red spot, somewhat deeper in color than the mucous surface on which it is seated. The secretion of this chancre is usually serous in character, or when it is irritated it may secrete true pus. Often, no evidence of induration can be felt. A striking peculiarity of the chancrous erosion is its short period of existence. It frequently comes and goes without the knowledge of its bearer, and leaves no evidence of a cicatrix.

2. The scaling papule or tubercle. This lesion is found upon the outer surface of the labia majora, upon the labia minora, upon the prepuce of the clitoris, upon the internal surface of the thighs, the inguinal folds, and the hypogastrium. It begins as a small, dull-red colored papule, which may or may not be scaly and is usually not much elevated. It becomes brownish-red or purplish-brown in color and has a sharply defined margin. It usually leaves a dark stain and when irritated it loses its epidermal covering and becomes raw and exuding. In rare cases the scaling papular chancre develops around a hair, and when this occurs it is not uncommon to see two or three or even more of these chancres. All chancres of this variety are slow in disappearing.

3. The elevated papule or tubercle—ulcus elevatum. This chancre presents the appearance of a well-circumscribed, flat or elevated lesion whose surface is similar to that of the chancrous erosion. Indeed, it may be defined as a chancrous erosion in which the hyperplastic process has been very active and productive of much infiltration. The ulcus elevatum is seen upon the mucous surface of the labia majora and minora in its most typical form. It may become much hypertrophied and around it may develop a greater or less amount of indurating œdema. It rarely shows marked induration.

4. The encrusted chancre. This is not uncommonly found upon the juxta-pudendal cutaneous surfaces, and indeed upon any portion of the integument. It has been stated that the incrusted chancres are not found within the area of the mucous membrane of the vulva, but it is not at all uncommon to find chancres in an encrusted state at the fourchette, and rarely they are found upon the clitoris and the labia minora, when these structures have come to look like integument. This incrustation forms upon an eroded surface; it begins as a thin white film, presenting a glistening appearance, and this increases in extent and thickness until a species of false membrane is formed which is wrongly called diphtheritic membrane. Then again we find, though very rarely, the chancre called by Fournier *chancre multicolore*, or the *chancre en cocarde*, in which the surface of the chancre presents a series of concentrated zones of different colors.

5. The indurated nodule. This chancre, so common in men, is very rare in women. In men the syphilitic neoplasm or nodule as a rule circumscribes itself in compact form into a little mass; in women this new growth tends to diffuse itself more loosely into the soft mucous tissues.

6. The diffuse exulcerated chancre. This is not infrequently observed in women of the lower order who are uncleanly in their habits and given to debauches. It presumably begins as a chancrous erosion and develops into the ulcus elevatum and from this stage further develops. The appearance of this form of chancre varies. Some times it looks raw, like beef, and at other times like an elephantine incrusted chancre.

As a rule, all chancres of the female genitals are unaccompanied with pain. Chancres of the vagina are very rare. Clerc never saw one, and Fournier says he never saw one seated beyond the vaginal ring. Bockhart reports a case of chancre of the middle portion of the vagina which had developed upon an excoriation produced by a tickler in ultra-libidinous coitus.

In reply to the question, by Dr. Palmer, whether labial chancres (of the mouth) were more common on the upper or the lower lip, Dr. Taylor stated that, in his opinion, it was largely a matter of luck. Of the labial chancres that he had seen, probably 60 per cent. had been of the lower lip.

Dr. J. Blake White, of New York, asked in what percentage of cases Dr. Taylor had observed the presence of a specific lesion high up in the vagina, notably at the cervix, where there was also a lesion in the posterior fissure of the vagina?

Dr. Taylor replied that he had observed this in two or three cases, but that he regarded it simply as a coincidence.

Observations Upon the Syphilitic Cachexia, by Dr. J. Blake White, of New York. He stated that although syphilis has been for centuries a familiar disease the essential nature of the poison is yet undiscovered. Specific diseases ordinarily exhibit a peculiar affinity for certain tissues and organs of the body, but after the initial manifestation of syphilis and its accompanying adenopathy, every structure of the body may become attacked, and if it is not checked in its inception a host of consecutive ills may ensue by which the unfortunate subject is made to suffer through life. That he can look with hope for no aid from Nature by spontaneous resolution, as occurs in so many other maladies. Certain temperaments are less prone than others to put on the cachectic livery of this disease, but experience tends rather to prove that no particular temperament enjoys an absolute immunity from it. Patients suffering from any form of scrofula or tuberculosis, or whose kidneys are diseased at the time of infection, suffer most severely from the consecutive accidents of syphilis. In such cases it becomes necessary to have recourse to remedies which not only will prove useful as direct tonics, but such also as will act through the glandular system. The eminent therapeutic value of the salts of gold in the cachexia of syphilis was strongly advanced by Christian in 1810, and Bartholow greatly extols the efficacy of the gold preparations in constitutional syphilis. The author's experience with the combined salts of gold and manganese in tuberculous and syphilitic affections has proved them especially advantageous remedies. The salts of platinum may be substituted for those of the gold. The hypodermic administration of these remedies is facilitated by their combination in fluid form and he has used glycerine as a solvent.

On the Occurrence of Nephritis in Syphilis.—Dr. John A. Fordyce, of New York, read a paper with this title, in which he stated that the occurrence of albuminuria, with and without œdema, has not infrequently been observed during the early outbreak of syphilitic manifestations. The author stated that cases had come under his observation where the albuminuria disappeared under the influence of mercury, and others in which the albuminuria had appeared coincident with the outbreak of the secondary symptoms, and to whom no mercury had been given. Reasoning by analogy, he was inclined to class this transient albuminuria with other congestive phenomena which take place in internal organs during the early period of this disease, or with the albuminuria which so frequently complicates acute infectious diseases. Aside from these cases of transient albuminuria in early syphilis, and the more severe amyloid, gummatous, and interstitial nephritis, a number of observers have noted the occurrence of an acute parenchymatous nephritis, pursuing a course not unlike the nephritis of scarlatina, terminating at times in recovery, and again passing into a chronic form. Dr. Fordyce then gave the history of a case of this kind which came under his own observation.

Hereditary Syphilitic Transmission through Two Generations, by Dr. Edmund E. King, of Toronto. This paper was a reply to certain criticisms made by M. Diday, of Lyons, of Dr. King's previous paper on this subject, read to this Association in May, 1888. In that paper Dr. King gave the history of a child in whom snuffles were first noted on the eighth day after birth, mucous patches on the twelfth day, and condylomata on the thirty-third day. The child died on the ninety-fifth day. The mother's nipples were sore and hard on the twenty-sixth day after confinement. The author could find no trace of syphilis in the father, and states that he came to the conclusion that the mother of the child had inherited the syphilitic taint from her parents; that the syphilitic virus had, previous to the birth of the child, lain latent, having either been too weak to assert itself or the conditions for its development having been unfavorable; that by cultivation in the fœtus it acquired virulence sufficient to cause an outbreak or re-infection through the nipple, or, second, the birth of the child and lactation

brought about circumstances favorable to the lighting up of the disease. Dr. King summarizes his conclusions as follows: First, that this is an exception to Colles's law; second, that no outside party inoculated the child; third, that the child had hereditary syphilis; fourth, that the mother was re-inoculated from it.

The three foregoing papers were discussed together.

DR. TAYLOR stated that he wished to challenge a remark made by Dr. J. Blake White in his paper, to the effect that Nature does not eliminate the poison of syphilis. Dr. White had overlooked the fact that syphilis often is aborted in the first or second stages. Animals are immune to syphilis, and there may be some persons who possess the same immunity. There is sufficient clinical evidence to show that syphilis does abort itself sometimes. There are some persons in whom the syphilitic virus runs riot, while others appear able to crush out the disease. He thought Dr. White should add to those who suffer markedly from the syphilitic cachexia the tall, thin, spider-looking fellows; flabby individuals who possess a great succulence of tissue, and the light-red complexions—not the blonds, but the light-red fellows.

With reference to the paper read by Dr. Fordyce, Dr. Taylor stated that albuminuria was very common during the early stages of syphilis. Casts are rare, and if any are found they are of the hyaline character.

In reply to Dr. King's paper Dr. Taylor stated that he was sorry to see that Dr. King had again rehabilitated his case of syphilis in the third generation. He did not want to go down on record as endorsing that case.

DR. J. NEVINS HYDE, of Chicago, stated that he would like to endorse what Dr. Taylor had said about the immunity of certain persons against syphilitic infection. A number of cases had come under his observation where no symptoms had appeared after the lapse of many years.

DR. JAMES P. TUTTLE, of New York, stated that eighteen months ago a man came under his observation with a typical papular indurated chancre. Two weeks afterward he brought his wife, who had become infected, and about six or seven weeks later he brought his mistress, who at that time had an erosive chancre. Dr. Tuttle gave these people no treatment until the secondary symptoms appeared. The man suffered from these secondary symptoms in their most virulent form, his wife developed them in a milder degree, while the mistress has never developed a single symptom up to the present day.

AMERICAN ORTHOPEDIC ASSOCIATION.

Fifth Annual Meeting, held at the Arlington Hotel, Washington, D. C., September 22, 23, 24, and 25, 1891.

FIRST DAY, TUESDAY, SEPTEMBER 22D.

Orthopedic Surgery as a Specialty.—DR. JUDSON, in the President's Address, said that in a congress composed chiefly of special societies, it was proper to ask why orthopedic surgery exists and thrives as a specialty. He believed it was because orthopedic patients do not, as a rule, make absolute recoveries. There is commonly a residuum of disability and deformity, and general practitioners concur with the public in referring such cases to experts. Orthopedic patients are, as a rule, children, and in the slow methods of this specialty great disability and deformity are avoided by continuous treatment, during which the affected part increases in ability and symmetry with the growth of the child.

This is especially the domain of physical demonstration, where subjective symptoms are forgotten in view of objective signs; where diagnosis depends on what may be seen, touched, and measured; where treatment is by physical forces under direct control, and where results are recorded in degrees of a circle and fractions of an inch. Dealing thus with physical realities let us not overlook the moral verities, remembering that diligence is the price of success, and that the only desirable success is to be reached by rejecting error and cleaving to what is true.

Uniform Nomenclature in Orthopedic Surgery.—DR. W. R. TOWNSEND, of New York, made an earnest plea for a uniform nomenclature, and for relief from the confusion which exists in the terms used in the various hospitals in this country.

Two Cases of a Peculiar Type of Primary Crural Asymmetry.—DR. H. L. TAYLOR, of New York, reported two cases. The first case, a lady, twenty-three years of age, had a difference of two inches in favor of the left side, measuring from the anterior superior spine of the ilium to the internal malleolus. Measuring from the head of the tibia the difference was one and one-eighth inch. In the other case, a girl, aged fifteen, the left leg was one inch shorter than the right. Here, also, rather more than half the shortening was below the knee.

The peculiarities of these cases consisted in the greater size and strength of the shorter limb, of which one of the patients at least was conscious, and which was plainly demonstrated in both. In neither case was there any evident lesion or impairment of the nervous, muscular, or osseous system, beyond the unequal development, and in neither case did lateral curvature exist.

On the Best Means of Preventing a Loose Joint, or Dangling Limb, after Resection at the Shoulder.—DR. W. R. WHITEHEAD reported a case, the main feature in the treatment of which was the use of elastic pressure, by means of a simple rubber bandage five yards long and three inches wide, applied over the dressings like the third bandage of Dessault for fractured clavicle, together with the use of an immobilization splint of Russian felt, shaped and fitted to the sides of the chest, arms, and forearm.

A Case of Spina Bifida, with Partial Motor and Sensory Paralysis, Double Equino-varus, and Purulent Bursitis.—DR. H. AUGUSTUS WILSON, of Philadelphia, gave a very carefully prepared statistical paper on 242 cases of spina bifida. Some form of club-foot was found in 40 cases. One case was reported in detail, and the peculiar vulnerability of the soft tissues, not only of the spinal deformity, but also of the feet, and the consequent unsatisfactory results of all forms of treatment directed to remedy the clubbed feet.

Congenital Club-Foot, with Absence of Great Toe and Contiguous Bones of the Instep.—DR. T. M. L. CHRYSTIE, of New York, presented numerous illustrations of the patient before and after treatment. The first row of the phalanges, the first metatarsal, and the internal cuneiform bones, the two tibial and other three muscles of the leg whose tendons are attached thereto, were all absent; and the scaphoid was not fully developed. The remainder of the foot and of the child were well developed. The talipes was cured and the gait made symmetrical after six months' treatment.

A Case of Double Club-foot, Double Club-hand, and Multiple Deformities.—DR. WILLIAM E. WIRT, of Cleveland, reported the case of a child, less than a year old, having double club-foot, double club-hand, rudimentary joints at knees, hips, elbows, shoulders, and wrists, with contraction of the palmar fascia. Motion at the above-named joints was possible to but a slight extent. The obstruction seemed more bony and ligamentous than muscular. There was congenital dislocation at the right hip. The mother is said to have had a severe fright during the fourth month of pregnancy. The child presented by the breech, and the labor was difficult. The child had a large head, with a depression on one side. The body was extremely emaciated. For some months the child seemed in great pain and was very irritable, and there was but slight muscular power. On a recent examination motion at the different joints was found to have somewhat increased, the child was plump, the extreme sensitiveness of the joints was nearly gone, and the mental calibre had somewhat improved. No treatment of the feet and hands had been permitted.

Deformity following Knee-joint Excision.—Dr. J. C. Schapps, of Brooklyn, reported two cases cured without fracture by use of osteoclast and brace. The result of uniting two epiphyses is a mass of soft bone, into each end of which is inserted a long lever. The vertical axis of the bones should be brought into a straight line, so that the weight is transmitted vertically, and mechanical support should be continued for at least two years after the operation.

The condition of the bone around the seat of disease is usually the cause of deformity, and this is a temporary condition after all actually diseased bone has been removed; the limb eventually becomes firm. Deformity can be permanently overcome without fracture by mechanical force. Excision is the best treatment, except in some very mild cases where faithful co-operation of surgeon, patient, and friends can be uninterruptedly continued for a number of years. The operation greatly shortens the treatment, and is the best means of abolishing the traumatism of motion which these cases can seldom tolerate. But most important, it removes the tuberculous focus, always a menace to the limb and life of the patient.

Gonorrhœal Rheumatism.—Mr. B. E. Brodhurst, of London, England, sent a communication in which he pointed out that the first attack was always preceded by a specific urethral discharge; subsequent attacks might be caused by any urethral irritation. First attacks were usually perfectly recovered from; subsequent attacks were more apt to leave more or less stiffness. Treatment consists in mercurial plasters, with compression locally and mercurial inunctions generally. Passive motions should be commenced when the painful stage has passed.

Joints left stiff after the subsidence of the inflammation should be forcibly freed under an anæsthetic, and flexor tendons cut when necessary.

The Diagnostic and Prognostic Value of High Temperature in Chronic Joint Disease.—Dr. R. W. Lovett, of Boston, sent a communication in which he said: High temperature is a constant accompaniment of acute hip disease and Pott's disease, and is to be accorded a certain diagnostic as well as prognostic value. The rise occurs independently of the presence of pus, and cases with unopened abscesses do not, as a rule, present a higher temperature than those where no abscesses are to be detached.

In a series of several hundred observations of afternoon temperature in children with hip disease and Pott's disease, it has been found that the rise is from one to four degrees, and that in a general way the rise is greater in the severer cases, and that it may be accorded a certain prognostic value in this regard; that is to say, a case of Pott's disease, for example, presenting an even temperature of 101° F., although not at the time perhaps particularly severe, must be regarded as a case likely to develop acute and severe symptoms.

Convalescent cases, and cases in the later stages which are doing well, are more likely to present normal temperatures, and the occurrence of high temperature is to be accounted a warning of trouble.

The Orthopedic Work of the Late Mr. Thomas.—Dr. A. J. Steele, of St. Louis, gave a careful review of Mr. Thomas's work, with comparison of his methods with those in common use in this country. He claimed for Dr. Physic, of Philadelphia, the honor of having used immobilization in hip disease before Thomas.

Some Lateral Traction Fixation Splints.—Dr. A. M. Phelps, of New York, discussed the question of rest and motion in the treatment of joint disease, reviewing his experiments to prove that prolonged immobilization did not tend to anchylosis, either in healthy or diseased joints. He also reported cases showing the good results and the absence of bad results of prolonged immobilization in hip disease. He then exhibited the various lateral traction hip-splints that are known by his name.

AMERICAN PHYSIOLOGICAL SOCIETY.

Fourth Annual Meeting, held at the Arlington Hotel, Washington, D. C., Tuesday, September 22, 1891.

Effects of Bleeding and Starvation upon the Proteids of the Blood.—Dr. H. Newell Martin, of Baltimore, read a paper with this title. He referred to various methods that had been tried by various authorities in separating the several albumins of the blood and the difficulties met with in making a correct estimate of the quantity of fibrinogen contained therein.

Analysis of the Blood.—After a thorough study of all the various methods tried for analyzing the blood, Dr. Martin said the one which he adopted was briefly the following: The blood is taken from the carotid artery into cylinders surrounded with ice and containing a saturated solution of magnesium sulphate. Approximately one part of the sulphate was allowed for every ten parts of blood. This is sufficient to prevent the clotting, and the corpuscles subside more readily than when larger quantities are used. Then 10 c.c. of the plasma are neutralized with an addition of one per cent. acetic acid, and finally an extra drop of acid causes a faint acid reaction. On now heating to 60° C., for five minutes, the fibrinogen comes down. It is a weighted filter, washed free from all albumins, salts, and fats, and finally heated to a constant weight at 110°. After making corrections for the volume of sulphate the result gives the fibrinogen contained in 10 c.c. of blood; 5 c.c. of the filtrate from the first precipitate are then saturated with powdered Mg So_4 at a temperature of 35° C., to bring down the serum globulin. This determination must be corrected for volume of added acetic acid and of Mg So_4 solution. Finally, all the proteids are precipitated from 5 c.c. of the salted plasma by saturation with $(NH_4)_2So_4$. The filtrates from these precipitates were tested in every case, but no trace of albumin was ever found in them. The serum albumin can thus be determined by subtracting the serum globulin and fibrinogen from the total proteids.

Anæmia.—To ascertain the changes produced in the blood by hemorrhage, some cats were bled twice at an interval of twenty-four hours. The first bleeding varied from 55 c.c., to 81 c.c.; at the second bleeding they were bled to death. Both specimens of blood were then analyzed in the manner already described, and the results showed that the amount of proteids contained in the second bleeding was diminished, while the serum, albumin, and fibrinogen were not diminished. In observations made by some authorities it has been found that the sudden diminution of the proteids produced by bloodletting is gradually followed not only by a rise back to the normal, but even by a decided increase. A similar increase above the normal was recently found to occur in dogs by Favilli who, however, allowed an interval of several days between successive bleedings. This interval was sufficient to allow the proteids to return to and pass beyond the normal amount, while in the cats experimented upon by the speaker the interval between the first and second bleedings was never more than twenty-four hours; the second bleeding occurred before the rise in the proteids was able to reach the normal condition.

Serum Albumin and Serum Globulin.—These did not seem to follow any fixed law. Sometimes one and sometimes the other is increased by the bleeding. Why this is so cannot be satisfactorily explained.

Fibrinogen.—Hemorrhage increased the fibrinogen in every instance, the increase varying from ten to one hundred and twenty-two per cent. of its original amount. In one cat Dr. Martin determined the amount of fibrin instead of the fibrinogen and found a similar increase.

How is this Increase of Fibrinogen to be Explained?—It is well known that after venesection the red corpuscles multiply, so that in a few days the blood again contains the normal number per cubic millimetre, and it is now generally agreed that these red corpuscles are formed from special hæmatoblastic cells. Differences

of opinion exist as to the details of the process, but according to one accepted view the nucleus is bodily excluded from the hæmatoblast, the rest of the cell becoming a single red corpuscle. Howell, working in his laboratory, confirmed this view. These nuclei quickly go into solution in the lymph or blood, and the most natural supposition is that they give rise to one or more of the albumins present there.

Analysis shows that bleeding, which sets up a rapid regeneration of red blood-corpuscles, does in every case produce a marked increase of fibrinogen, and there is reason to believe that this fibrinogen does come from the dissolved nuclei of hæmatoblasts. The fibrinogen is normally present in so small a quantity that we can hardly account for its occurrence in the blood on the score of its nutritive value. But on this assumption made as to its origin, not only can its constant presence in such small quantity be explained, but also the rapid increase after hemorrhage.

The red corpuscles, like every other morphological element of the body, are all the time dying, the various pigments of the body are sufficient evidence of this. To make good this loss, a corresponding development must be going on. But by the hypothesis this means a constant supply of fibrinogen for the blood. When by hemorrhage the manufacture of corpuscles is augmented, a corresponding increase of fibrinogen is a necessary consequence.

In 1875 Alexander Schmidt and his pupil, Semmer, found that the defibrinated blood of birds, when diluted with four to six times its volume of water, or, better still, of a dilute ferment solution, would give a second clot. Such a second clot could not be produced by the serum when treated in the same way; indeed, the second clot from the corpuscles was increased when care was taken to remove the serum before the water was added. This showed that the second clot must have been obtained from the corpuscles.

Schmidt never could make this experiment succeed with mammalian blood. Now, as far as we know, the chief difference between the red corpuscles of mammalia and those of birds is a presence of a nuclei in the latter.

The nuclei of the red corpuscle of the bird can account, therefore, for the second clot, which implies that they first gave rise to fibrinogen. If the transformation of the nuclei is possible in this case, there is no reason to suppose that it would be more difficult for the extruded nuclei of the hæmatoblasts of mammals, when they are thrown into the lymph- or blood-stream.

On this theory of the origin of fibrinogen an observation made by Franz Boll also receives a plausible explanation.

He found that the blood of chick embryos, when carefully drawn so as to avoid all contamination, does not clot until the embryo reaches a certain age; that is to say, the twelfth day of incubation. Blood obtained from embryos a little older showed gradually increasing amount of fibrinogen, until, at about the sixteenth day, a regular clot is formed.

Dr. Martin said that he had already referred to the fact that destruction and regeneration of the red corpuscles go on simultaneously, but we must suppose from that that each individual corpuscle lives for some time, during which it contributes its share to the maintenance of the organism. The length of life of the corpuscle must depend on many circumstances; no determinations of its approximate length have come to my knowledge. However, I do not think it will do violence to any established facts to suppose that it may equal about ten to twelve days in embryo chicks. If this were so it would not be difficult to explain Boll's observation.

The red corpuscles of the chick being nucleated, no fibrinogen is produced during their development, and the blood cannot clot.

This solution of nuclei and the consequent appearance of fibrinogen is deferred until the corpuscles first formed begin to die and disappear; that is, the tenth or twelfth day, according to the hypothesis, and that is what Boll actually found. After that age fibrinogen begins to appear in the blood.

It would be desirable, the speaker said, to give this theory for the origin of fibrinogen a firm support on chemical grounds, but in the present state of our knowledge of the chemistry of the proteids it can hardly be hoped to trace the relationships between the constituents of the nucleus and the fibrinogen of the blood which would account for the ready transition of the former into the latter.

Respiratory Changes of Intra-thoracic Pressure.—Dr. S. J. Meltzer, of New York, followed with an elaborate paper on the "Respiratory Changes of the Intra-thoracical Pressure, Measured in the Mediastinum Posterior." He stated that at present there were three different methods of determining the intra-thoracical pressure: by tying a monometer either in the trachea of a dead animal, or connecting it directly with the pleura or with the œsophagus of a living animal. All of his attempts with these methods were unsuccessful, and he would only mention that the pressure in the œsophagus was found to be about equal in all its parts, but at the same time it was evident that the œsophagus was not the proper place to determine the intra-thoracical pressure, as it is modified by the thickness of the wall of the œsophagus and its irregular contractions. He therefore resorted to a new method, which had all the advantages and none of the disadvantages of the œsophagus—it is the mediastinum posterior. His experiments, with one single exception of a dog, were conducted on rabbits.

The animals were first narcotized with chloral, after which a catheter was introduced into the mediastinum. The animal was placed upon its back, the skin of the neck cut lengthwise on the larynx and opposite the cricothyroideal ligament, a path was bored with a blunt instrument on the left sterno-hyoideal muscle to its outer margin, and here a narrow entrance was bored behind the lower part of the pharynx. In this opening a catheter was introduced and pushed downward parallel and behind the œsophagus.

The ascertaining of the state of the pressure in the mediastinum was done by connecting the catheter either with a water monometer or with a Marcy's tambour, by means of a rubber tubing.

In his experiments on these animals he found that the main inspiratory undulations were found to appear in the mediastinum posterior, only below the fourth and fifth ribs, while above this the change of the pressure during the inspiration was either hardly measurable, or it did not amount to more than a few millimetres of water.

In conclusion, he stated that although it seemed to him that his experiment on the mediastinum made it indeed probable that the apices and the back part of the upper third of the lungs do not participate in the breathing as strongly as the other parts of the lung do, in consideration of the importance of this conclusion we should not consider it as proven until it was tested by experiments made on the pleural cavity directly or within the lungs themselves.

AMERICAN PEDIATRIC SOCIETY.

Third Annual Meeting, held at the Arlington Hotel, Washington, D. C., September 22, 23, 24, and 25, 1891.

First Day, Tuesday, September 22d.

President's Address.—The President, Dr. T. M. Rotch, of Boston, in his address made mention of the enrolment of the society with the Congress of American Physicians and Surgeons. He spoke of the need for research in the special branch of Diseases of Children. The anatomy and physiology of children should be given careful consideration as leading to the study of the diseases of adult life. The general physician should be taught that he has but a limited knowledge of the diseases of children.

The therapeutics of childhood show the vagaries of treatment. Symptoms which in children are only due to the active growth of the nervous system are treated as if indicating organic disease. We must make use of the experts in different branches of science so that we may give our time to the study of a particular department of medicine. It should be our aim to have a lasting literature of careful investigation and the narration of facts.

Prophylaxis of Complications in Scarlet Fever.—Dr. J. Lewis Smith, of New York, read a paper on "How to Prevent Complications and Sequelæ of Scarlet Fever." The author spoke of the variations of the disease in different epidemics. He wished to call attention to the complications and sequelæ which should be given preventive treatment. He advised the use of disinfectants to the fauces at an early stage of the disorder. Recent investigations have shown that bacteria are always present in the fauces and nares, and the early frequent use of disinfectants will prevent not only the local inflammation, but also the systemic infection. Among other applications he mentioned the use of solutions of peroxide of hydrogen, corrosive sublimate, and boric acid. Eclampsia in the early stages of the disease shows great irritation of the nervous system. He regarded cold externally as especially valuable because of its antipyretic effect.

The author confidently recommended aconite and phenacetin in the severe nervous symptoms which accompany high temperature and precede eclampsia. He also spoke favorably of the use of the bromides for the nervous irritability of the early stage of the disease. The rheumatism, endocarditis, and pericarditis may be made less severe and dangerous by the use of local treatment to the fauces and by antiseptic sprays. The glomeruli nephritis he regarded as due to a micro-organism, though it may be induced by cold.

Dr. J. H. Fruitnight, of New York, stated that in most cases of scarlatina the nephritis occurs in mild cases, because these are the ones that are neglected.

Diagnosis of Pneumonia in Infancy and Early Childhood.—Dr. T. S. Latimer, of Baltimore, sent a paper on "The Most Diagnostic Symptoms of the Early Stage of Lobar Pneumonia and the Differential Diagnosis from such Diseases as Meningitis, Malaria, Scarlet Fever," etc., which was read by title.

Dr. F. Forchheimer, of Cincinnati, opened the discussion by giving the differential diagnosis of consolidation of the lung from effusions. It should be remembered that in childhood it takes fifty to one hundred grammes of fluid to give evidence of its presence. In the vast majority of cases of encysted pleurisy the fluid is secondary to disease of the lung. While bulging is often great in the encysted pleurisy, it is not so in the general effusion. Auscultation can be relied upon when the quantity of fluid is great. He regarded egophony as of rare presence in pleurisy. He did not advocate the introduction of the hypodermic needle to determine the presence of fluid. From a bacteriological stand-point the differential diagnosis of lobar and lobular pneumonia should be maintained.

The Diagnosis of Broncho-Pneumonia from Tuberculosis.—Dr. W. Osler, of Baltimore, read a paper on this subject. He gave some figures showing the frequency of tuberculosis in children. They should lead to careful investigation of our cases. He stated that many serous effusions are secondary. He did not believe in idiopathetic pleurisy. A long-continued afebrile course speaks against empyema. He had not seen a case of tubercular broncho-pneumonia in which the mediastinal glands had not been enlarged. The acute diseases—measles, scarlet fever, pertussis, etc.—produce the weakness of the system, which allows of the entrance of the tubercle bacilli. The protracted character of the disease, the occurrence of hectic, etc., show the tubercular process. We cannot always state what we have. Broncho-pneumonia is a process, while tuberculosis is a disease. In infants under two years of age broncho-pneumonia is rare, while the tubercular disease is common. The physical symptoms so often fail that we have to fall back on the history.

The Diagnosis of Broncho-Pneumonia from Bronchitis; also the Temperature Range in Acute Pneumonia, both Broncho and Lobar.—Dr. L. E. Holt, of New York, continued the discussion by papers on the above subjects. The cases narrated were from the New York Foundling Asylum, and most of them under three years of age. It was the rule under three years of age to get the remittent type of fever in lobar pneumonia. The younger the child the later the crisis. After the temperature passed 104.5° F. the mortality increased with each rise of temperature. The broncho-pneumonia cases that are most favorable are the ones where the temperature is about 104° F. A continuous high temperature warrants a diagnosis of pulmonary disease, but the absence of fever does not preclude pneumonia. Localized subcrepitant râles are to be looked upon as due to broncho-pneumonia. He would regard every doubtful case as one of pneumonia.

Dr. W. P. Northrup, of New York, discussed the differential diagnosis of pleuritic effusions from pneumonia.

Dr. H. Koplik, of New York, had found encysted pleurisies due to pneumonia, and had seen them make a perfect recovery. He thought that in many cases of pneumonia in which the crisis was delayed he had found pleurisy.

Dr. A. Jacobi, of New York, stated that in his experience he had found cases of broncho- and lobar-pneumonia frequently complicated, and the crisis in that way delayed. He had also observed pneumonias which had run their course in less than the usual time. He believed that the interstitial tissue is always more or less involved, and the greater the extent of involvement, the slower will be the disease.

Continuing he stated that there are some special reasons why in children it is difficult to make an early diagnosis. The absence of sputa should be considered. The cerebral symptoms cannot always be diagnosticated. The localization of the pulmonic lesion is not always positive. An examination of the axillary region will frequently decide the diagnosis.

Dr. J. Lewis Smith questioned the diagnostic points by which Dr. Holt had been able to decide on the presence of lobar pneumonia.

Dr. W. Osler, of Baltimore, had not observed so many cases of lobar pneumonia as had Dr. Holt.

Dr. S. S. Adams, of Washington, thought that climatic conditions might influence the character of the disease.

There was some general discussion as to the frequency of the two forms of pneumonia in children.

AMERICAN OTOLOGICAL SOCIETY.

Twenty-fourth Annual Meeting, held at the Arlington Hotel, Washington, D. C., Tuesday, September 22, 1891.

Gorham Bacon, M.D., President.

Mastoid Inflammation.—The subject exciting the greatest interest, and occupying the greater share of the time of the Society, was that of inflammation of the mastoid process. Dr. H. Knapp, of New York, reported two cases on which he had operated. In the one there was otorrhœa, fatal meningitis occurred, and the autopsy proved that death had been preventable. In the other, a congestive inflammation of the interior of the mastoid with the drum-head unbroken, the operation was followed by recovery.

In the first case, besides the aural there were intense cerebral symptoms, headache, nausea, giddiness, and some stupor. In the fourth week Dr. Knapp chiselled into the mastoid process to the depth of fully one-half inch, and finding no pus desisted. The patient was at

first relieved, but afterward the symptoms returned with increased intensity, and the patient died, comatose, in the eighth week. The autopsy showed diffuse purulent meningitis, a small abscess in the jugular fossa, and a collection of pus in the attic of the tympanum. The abscess in the jugular fossa was separated from the surgical opening in the mastoid by only a thin layer of healthy bone. He thought that if the opening had gone three millimetres deeper it might have saved the patient's life.

In the second case the most prominent symptom was severe, almost persistent pain in the mastoid region, radiating thence over the head and down the neck to the clavicle. The upper part of the drum-membrane was red and bulging. Six weeks of treatment failed to give relief, and the mastoid region became tender and doughy. The mastoid was opened extensively, but nothing was found but intense congestion of the bone and lining membrane of the air-cells, from which were scooped out some granulations, the spoon being made to penetrate as far as the periphery of the drum-cavity. The patient was relieved at once and gradually got well with complete restoration of hearing. This case, considered now, almost two years afterward, Dr. Knapp states, justifies an operation in congestive mastoiditis, which, without such treatment, is apt to run for many years and lead to sclerosis.

Free Opening of the Mastoid and Removal of All Diseased Tissue.—Dr. C. J. Blake, of Boston, reported twenty-three recent cases in which he had resorted to this procedure. After shaving, washing, and disinfecting the skin a free incision was made down to the bone and the soft tissues well retracted. The bone was first penetrated with a small drill, the opening then enlarged with a larger drill and the use of the chisel. The diseased and softened bone was then all removed, mainly by curetting with a sharp spoon, which enabled one to work safely from the dura mater when this had to be exposed in the process. An incision was made in the posterior portion of the tympanic membrane, and the mastoid and tympanum washed out with a weak sublimate solution. After this, drainage was secured by the free use of the probe. In two cases the wound was completely healed in a week, and in several others by the end of the second week. It was sometimes needful, particularly in cases of long standing, to use a knife to divide bands of cicatricial tissue which give before the spoon but protect portions of diseased bone. In cases in which the operation had been too long deferred there was extensive destruction of the bone, and the healing was protracted. In one of these, in which the patient had been subjected to the inadequate operation of incision down to the bone, although there was great improvement after a more radical operation, death ultimately resulted. In another case of delayed operation metastatic irido choroiditis destroyed one eye, and one lip became involved.

Dr. E. Gruening, of New York, had found the most important symptom for the diagnosis of mastoid disease was local tenderness. Other symptoms are liable to be lacking, and he would operate though it alone were present. The incision through the soft parts should be extensive and the whole of the cortex of the bone removed, as in this way diseased cavities were found that would otherwise escape detection. If all diseased bone is removed it is not necessary to disturb the tympanic cavity, and little or no after-treatment is required. In the operation he finds it needful to make free use of a small chisel and of the ordinary bone forceps or rongeur. He thought that the wound might be entirely closed immediately after the operation, but had not tried it.

Acute Suppuration of the Middle Ear.—Dr. J. M. Ray, of Louisville, reported a case in which the acute suppuration of the middle ear was attended by septic meningitis and death. The autopsy showed no involvement of the temporal bone, and that the process must have spread to the cerebral meninges through the medium of the general circulation.

Otitic Epilepsy, Trephining, and Fatal Septic Meningitis.—Dr. B. Alexander Randall, of Philadelphia, reported a case of aural suppuration with epileptiform seizures of growing frequency, where a large exostosis nearly closed the auditory canal. Exploratory trephining behind the meatus opened the antrum without finding abnormal tissue short of the denuded antrum and attic. No cholesteatoma. There was slow healing with no trouble until the fourteenth day, when pain and swelling below the mastoid occurred, followed by severe headache, and the patient grew rapidly worse and died of meningitis on the twenty-third day. The autopsy showed a purulent subarachnoid effusion of the entire convexity, with no trace of direct communication from the temporal bone, where there was denudation of the antrum and attic with erosion of the ossicles. No lesion of the cerebrum or of the labyrinth was discoverable to account for the epileptiform convulsions, and the septic infection had to be ascribed to absorption along the trephining track. A series of specimens were shown from fatal otitic cases, illustrating various channels of communication of the inflammatory process to the intracranial structures.

Use of the Leiter Coil in Mastoid Disease.—Dr. Gorham Bacon, of New York, had found this a valuable means of treating the first stages of mastoid inflammation, and had obtained with it very satisfactory results.

Excision of the Membrana Tympani and Necrotic Malleus for Chronic Purulent Otitis Media.—Dr. Charles H. Burnett, of Philadelphia, reported four cases treated in this manner. The operation was performed under ether, with the ear illuminated by an electric headlamp run by a small storage battery. All rational routine treatment was tried on these cases before resorting to this surgical procedure. In the first case the suppuration, after lasting for twenty-five years, was checked in nine months. The hearing was unaltered. In the second, which was of six years' duration, the hearing improved from ten inches to four feet in two weeks after the operation, and it is now ten feet for isolated words. The discharge has been lessened by the operation, but not checked, after the lapse of more than a year. In the third, one of very chronic suppuration of the attic space, in which the hearing was reduced to nothing and in which the patient had frequent cholesteatomatous collections in the middle ear, and pain, the operation at once checked the discharge and the hearing rose to two feet in the course of a few weeks after the operation. The improved condition of the ear has been maintained for over a year. In the fourth case, in which the discharge had lasted nearly thirty years, the hearing at once rose from six inches before the operation to two feet immediately after it. At the present time the hearing distance is eight feet and the discharge from the ear has ceased.

Healing of Old Perforations in the Tympanic Membrane.—Dr. Samuel Theobald, of Baltimore, reported some attempts to effect this that had been partially successful. It was a result to be desired, because the danger of purulent otitis was thereby lessened and the hearing might be improved. The use of disks of paper, or of various animal membranes to be placed against the drum membrane he had found unsatisfactory. His best results had been attained by the use of artificial drum-membranes of absorbent cotton, moistened by vaseline. These prevented undue dryness of the canal, and the use of a saturated solution of boric acid might be resorted to for checking any undue discharge. As a means of stimulating the formation of new tissue to close the perforation he had tried the addition of balsam of Peru to the vaseline, and found it exerted such an influence.

Unusual Dislocation of the Malleus Handle.—Dr. Theobald reported a case of this condition, probably of long standing and due to previous ear disease.

Anatomy of the Elephant's Ear.—Dr. Huntington Richards, of New York, added some further points to his previous communications on this subject, and illustrated them by the exhibition of specimens.

Owing to lack of time, a number of papers were read by title, and the Society went into executive session and re-elected the following officers:

Officers for the Ensuing Year.—*President*, Gorham Bacon, M.D., of New York; *Vice-President*, Huntington Richards, M.D., of New York; *Secretary and Treasurer*, J. J. B. Vermyne, M.D., of New Bedford, Mass. It was decided to hold the next meeting at the same place as that of the American Ophthalmological Society, and on the day preceding its meeting.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

(Continued from p. 351.)

SECOND DAY, WEDNESDAY, SEPTEMBER 23D.

The Late Manifestations of Syphilis.—DR. PHINEAS S. CONNER, of Cincinnati, opened the discussion. In the study of this subject hospital statistics were utterly valueless, partly because only the more severe forms ordinarily seek hospital care, and partly because these patients are wanderers, and their antecedent history is unobtainable. There is no sharply defined line between the early and late lesions, but only with the end of life terminates the possibility of the development of gummata. Those syphilitic by inheritance suffer in far greater proportion from the late lesions. According to the usual conception of bone, as simply a part of the framework of the body, it seems at first glance strange that it should so often be the seat of the late development of this disease; but closer study shows that bone is in reality a species of lymph-gland, liberally supplied with blood. But this new view only makes us wonder why the bones are not attacked at an earlier period. In all probability they are so attacked, and the fugitive pains about the head and other portions of the body are to be considered as an expression of this condition. The weight of the newly formed bone is not proportionate to its size. In the long bones it is above rather than below the epiphyseal line, and hence the comparative rarity of syphilitic joint disease. The frequent periosteal disturbances may be due not only to primary infection from the air, but to an extension through the Haversian canals to the interior of the bone. At present destructive inflammation of the bones is for the most part confined to those of the face, for the disease is not only milder, but the subjects of it are better fed and more systematically treated. The most dangerous and least understood lesions are those of the nervous system, which attacks men much more frequently than women, and is particularly common among brain-workers. Mr. Horsley has said that medicinal treatment never did more than secure a very temporary relief in cases of cerebral gummata, and that the only really effectual treatment was excision.

While recognizing the brilliant achievement and claims of modern brain surgery, the speaker thought that few would be willing to unqualifiedly endorse this statement. The motor area of the cortex is a region of very great activity, and is consequently the frequent site for the development of numerous new-growths. The convulsions produced by syphilis are often with difficulty distinguished from those of epilepsy, except by their occurring for the first time rather late in life. They are distinguished from hysterical convulsions by the absence of disturbances of sensation. In a limited number of cases psychical disturbances are prominent. They may take the form of active mania, dementia, or general paresis. Though the latter condition is very commonly associated with a history of syphilis, the syphilis is only one of a number of elements which enter into its causation. Lesions of the cord are infrequent as compared with those of the brain; but owing to the small size of the spinal canal a mass of very moderate size is capable of causing sufficient compression to destroy the spinal cord. A large number of ataxic patients have unquestionably had syphilis at sometime or other, but tabes is not of true gummatous origin. Antisyphilitic treatment rarely cures it, and often does not even retard the progress of the disease. Locomotor ataxia can be regarded as a sequel but not as a lesion of syphilis. It bears somewhat the same relation to syphilis that post-diphtheritic paralysis bears to diphtheria.

Everywhere and at all times the development of the late manifestations of syphilis means danger to life. The author then reviewed some of the theories which had been offered in explanation of the long intervals during which syphilis lies dormant, a subject which is most perplexing.

Other diseases, by lessening the subject's powers of resistance, tend to aggravate and hasten the progress of syphilis. Occasionally, and particularly in the tongue, a gumma undergoes cancerous degeneration. In certain localities, especially in the breast, a gumma may be mistaken for a cancer, and it is quite conceivable that many reported successful operations for malignant disease can be explained in this way. In one who has had syphilis any traumatism may be the starting-point of extensive syphilitic lesions, even though there may have been a latent period of many years.

DR. ABNER POST, of Boston, continued the discussion, speaking from the stand-point of the clinician, and confining his remarks to certain points in which he was specially interested. He thought that most physicians were too slow to accept the diagnosis of syphilis in patients who had passed the period of infancy, although if they were confronted with the same lesions in an adult they would unhesitatingly pronounce them syphilitic. It was almost impossible to make any reliable estimate as to the proportion of cases in which tertiary symptoms occur. Drysdale calculated that eight per cent. showed such lesions, while other observers say between five and twenty per cent. Fournier has shown that by far the larger number of the so-called late symptoms occurred in the third year, diminishing after this, so that it might be considered as decidedly rare after ten years. Out of 2,395 "late," 1,023 appeared in the first five years, 700 in the second five years, 322 in the third period, and at the eighth period of five years there were but twelve cases. It is probable, therefore, that only about twenty per cent. show the much-dreaded late manifestations. There seems to be no method of treatment which will allow us to promise absolute immunity from subsequent attacks. Enlargement of the lymphatic glands is one of the most constant symptoms of early syphilis, but in late syphilis this is almost without diagnostic value. The majority of cases of cervical adenitis demanding operation are of a tuberculous nature; but in rare cases, probably of syphilitic origin, the speaker said he had succeeded by antisyphilitic treatment in causing them to entirely disappear. It is of practical interest to inquire as to the trustworthiness of nocturnal bone-pains as a diagnostic sign. All clinicians will readily admit its undoubted value, but it should be viewed with suspicion when occurring in localities not commonly the seat of syphilitic periostitis. The syphilitic pains occurring in childhood are not generally recognized, and consequently lead to frequent and grave errors of diagnosis. They are often mistaken for "growing pains," or for rheumatism, and are therefore treated for a long time without success. Syphilis attacks the shafts of long bones by preference, whereas tuberculosis attacks chiefly the bones of the wrist and ankle.

It is well not to forget that the syphilitic processes which we know occur about the liver and spleen may at times give rise to peritonitis, and there was but little doubt that it occasionally involved various parts of the gastro-intestinal tract. He had had a case of very severe intestinal dyspepsia, which had proved most obstinate under treatment until a syphilitic periostitis led to the administration of the iodide, when the dyspepsia was promptly relieved. Such cases occur often enough to show that syphilis invades the intestinal tract with more or less frequency. Serious lesions of the gastro-intes-

tinal tract may also take place, as is shown by syphilitic strictures both of the œsophagus and rectum. In looking over the autopsy records of the Boston City Hospital he had found 19 cases recorded by the pathologist as syphilis, and in this number were included 1 case of ulceration of the pharynx, 2 of rectal stricture, 1 in which the gastric mucous membrane was markedly eroded, and 1 of ulceration and stricture of the large intestine. The only inference which the author desired to draw from this small number of cases was that syphilis may give rise to gastro-intestinal disease, and though rare, it was sufficiently frequent to open up a fruitful field for study. The study of syphilis is a necessity of medical progress, as the possibility of its presence renders uncertain the diagnosis of tuberculosis, cancer, and other diseases. To carry out properly the study of this most important subject demanded, in addition to ample clinical material, a hospital devoted entirely to this branch of medical science.

Dr. Robert T. Edes followed, with remarks upon syphilis of the nervous system. A careful recognition of this form is a matter of the last twenty years, during which time the literature of the subject had become very voluminous. Some recent researches of Drs. Taylor and Van Gieson are of special interest, as showing the great importance of the arterial lesions throughout the whole course of the disease. While syphilis was often associated with locomotor ataxia, this ataxia is in no sense a syphilitic disease. It is also found to be common in general paresis, even after making due allowance for errors in statistics.

Dr. J. Nevins Hyde spoke of some statistics which he had collected from 1,000 consecutive cases of syphilis occurring in private practice; 79 of these had tertiary or "late" manifestations; 11 were treated for both early and late symptoms; and 13 exhibited the so-called "late" symptoms within one year of infection. Most of these patients were between thirty and thirty-five years of age. Fournier, in the twenty-nine years of his experience in the French capital, saw 2,600 cases of tertiary syphilis in private practice, and in about thirty-two per cent. of these there was some involvement of the brain and cord. This very large proportion of cases of nervous symptoms was not to be found in this country or in many others. In considering the causes of late syphilis, he would place first on the list malnutrition, including in this class many patients who had an excess of fat. Next in importance may be classed alcoholism and the excessive use of tobacco, and lastly, he would place complete absence of treatment, or insufficient and injudicious treatment.

AMERICAN SURGICAL ASSOCIATION.

(Continued from p. 353.)

Second Day, Wednesday, September 23d.

Aseptic and Antiseptic Details in Surgery, by Dr. A. G. Gerster, of New York. Personal cleanliness and cleansing of the field of operation are to be accomplished by mechanical measures rather than by disinfectants. The dirt and oily matter of the skin is removed by emollient potash, soap, and stiff brush. This is followed by the germicidal lotion. The hands of the surgeon may be sterilized in the following manner: The nails are trimmed short, the hands scrubbed with soap and brush in hot water for one minute. The nails are then cleaned, and the hands immersed in strong alcohol and then washed in a 1 to 1,000 corrosive sublimate solution. Brushes require careful attention. They may be sterilized by boiling for five minutes in water containing one per cent. of washing soda. They should be kept in a 1 to 1,000 bichloride solution.

Instruments are sterilized by boiling for five minutes in soda solution, in a covered vessel. The addition of the soda prevents formation of rust.

Dressings are rendered absorbent and sterilized by steam. Strong antiseptic agents in dressings are objectionable from their action on the skin. Dressings may also be sterilized by boiling in soda or potash lye.

The use of Florida sponges was recommended, as owing to their cheapness they can be used once and then thrown away. Boiling of sponges is to be condemned. Sponges are best prepared by beating, followed by immersion in dilute muriatic acid. Acid is removed by washing. Then immerse in water for two days to permit the spores to germinate. Each sponge is then kneaded in hot water for one minute with potash or soft soap. They are then placed in five per cent. carbolic solution for twenty-four hours. As a substitute for the large flat sponges used in laparotomy, he recommended the substitution of pads of absorbent gauze.

In operating, few instruments, sponges, and assistants should be employed. The dissection should be clean, the tissues being cut rather than torn. Irrigation should not be employed, except when special indications present. In the abdominal cavity irrigation was condemned; when the peritoneal cavity is contaminated by pus, etc., simple wiping away of the matter is sufficient. In perfectly aseptic operations, no drainage is required. Iodoform gauze can often be substituted for the use of tubes. Drainage by tubes is required when there is progressive suppuration. In combating septic morbid processes, mechanical measures, such as incision, drainage, and irrigation are of more importance than chemical measures.

Dr. J. Collins Warren, of Boston, described the details of operative surgery as practised in the Boston City Hospital, the Massachusetts General Hospital, and the Children's Hospital.

Dr. J. William White, of Philadelphia, thought that the time had not yet arrived when the use of antiseptics could be dispensed with. He preferred an antiseptic dressing in all cases, except where the wound is absolutely sterile and where no discharge is to be expected. While in a general way he agreed as to the value of mechanical measures in cleaning the skin, he saw no good reason for throwing aside entirely the use of the weaker chemical solutions. There are so many cases in which we cannot be sure that the wound is aseptic, that antiseptic dressings become of importance. He had tried the gauze substitute for sponges in abdominal work, but had found it objectionable from the fact that when the gauze remains long in contact with the intestine, threads of the gauze adhere.

Dr. Joseph Ransohoff, of Cincinnati, said that in some cases it was absolutely impossible to render the part aseptic, and cited cases illustrating this point. In cases where it becomes clear that the wound is infected, he removes the dressings and soaks the part in hot water. He had discarded the use of sponges altogether. In the majority of cases he employs the aseptic dressing but could see no harm in the use of antiseptic dressings. Dressings, etc., in private practice may well be sterilized by heating in the oven. He thought that tight closing of the wound should be practised oftener than it now is. Drainage is rarely used except in wounds already septic. He often uses cat-gut for drainage. In the septic cases he thought that probably the surgeon was often responsible for the infection of the wound. By clean incisions, cutting far away from the disease, and by not using the sharp spoon too freely, infection of the wound in suppurating cases can often be prevented.

Dr. E. M. Moore, of Rochester, asked what objection there was to irrigation? In amputations, for instance, irrigation with a 1 to 1,000 bichloride solution affords a ready means of removing clots, etc. The clots are removed and the wound can be left in a dry state. If this irrigation does no harm, why not use it? Dr. Gerster had condemned it, but he had not given his reasons for such condemnation. In certain cases of abdominal section, especially where there was oozing of blood, the use of hot irrigation of aseptic water was of great service.

Dr. Gerster, in concluding, said that he did not con-

demn antiseptic methods. He employed both methods. In its proper place asepticism is infinitely superior to antisepticism, but the cases must be properly selected. Teachers must be careful not to go too far in advance of the rest of the profession. Those who have not learned the detail should be warned to stick to the older methods, and working up to the higher methods.

The Surgery of the Spine, by DR. J. WILLIAM WHITE, of Philadelphia. The conditions discussed were congenital deformities, tuberculosis of the spine, neoplasms, and traumatisms. Under the first head, spina bifida is the only condition requiring consideration. In this, injection by an iodo-glycerine solution offers the greatest prospect of ultimate recovery, with the least immediate danger. In tuberculosis of the spine the indications for interference are the evacuation of pus, removal of a sequestrum, or of a focus of carious bone, and relief of the cord from pressure. There are records of 14 operations upon the bodies of vertebræ for abscess, with 8 cures, 5 cases improved, and one death, which had no relation to the operation. There have been 40 cases of operations on the spine for the relief of pressure. In 22 there was either improvement or cure. The effect of suspension in the treatment of Pott's paralysis has been so favorable, that it should occupy a prominent position.

Conclusions in regard to operative treatment of spinal tuberculosis, with symptoms of pressure on the cord, were:

1. The paralysis in Pott's disease is not as a rule due to a transverse myelitis or hopeless degeneration, and is not usually due to the pressure of the carious or displaced vertebræ; but is in the majority of cases the result of an external pachymeningitis, which results in the formation of an extra-dural connective-tissue tumor.

2. Speaking generally, a favorable prognosis is to be given, especially in children, in cases of Pott's paralysis in which the abscess, if any exists, can be evacuated; the treatment by extension and with plaster jacket can be employed, and the patient can be put under the most favorable hygienic conditions.

3. In cases in which all this has been tried unsuccessfully, or in those in which the disease is slowly but steadily progressing to an unfavorable termination; where, with more or less complete loss of motion and sensation below the level of the lesion, there are incontinence of urine and fæces, and the development of bedsores; and especially when acute symptoms threaten life, resection becomes entirely justifiable.

4. Operations having been decided upon for any or all of the above reasons, the prognosis will be favorable in direct proportion to the youth and strength of the patient, the absence of generalized tuberculosis, and the nearness of the lesions to the base of the sign.

5. When the tuberculous process affects the arches and there is paraplegia, we may sometimes operate, hoping not only to free the cord, but at the same time remove the focus of disease. This double indication may also be fulfilled in those cases where, without bony disease, there is posterior pachymeningitis or a tuberculoma occupying the canal.

6. If the lesion of the bodies of the vertebræ is in the lumbar region, at a point where these bodies are accessible, it might be possible, in certain cases, to expose the cord from the back, by removal of the laminæ, with the object not only of removing pressure, but of reaching and taking away the diseased bone and tubercular granulation.

7. In tuberculosis of the body of a vertebra and compression of the cord by anterior pachymeningitis, we can fulfil only one indication—liberate the cord from pressure. We should operate only in grave cases where acute compression, the appearance of respiratory complications, the rapid development of degenerative processes, force us to interfere; or where the course of a chronic case is steadily toward a fatal termination, although no advanced visceral tuberculous lesions are present.

In regard to neoplasms, it was said that every case of focal spinal lesion, thought to depend on a tumor and not distinctly a malignant and generalized disease, should be regarded as amenable to operative interference, no matter how marked the symptoms of pressure may be, nor how long continued.

Traumatism.—The indications and contra-indications for trephining in spinal fractures are based on the following points: 1. The nature of the vertebral lesion and the nature and extent of the medullary lesion. 2. The time which has elapsed since the traumatism. 3. The regional level of the medullary lesion.

Conclusions.—The following conclusions were presented:

1. Some objections urged against operative interference in spinal traumatisms, *i.e.*, hemorrhage, frequency of absolute destruction of the cord, pressure from inaccessible fragments of bone, etc., have been shown to be unsupported by clinical facts; others were largely due to a well-founded dread of *a*, the shock, in those cases operated on in pre-anæsthetic times and, *b*, consecutive inflammation, suppuration, and pyæmia in pre-antiseptic periods.

2. Some results of recent operative interference in properly selected cases of fractures of the spine are encouraging, and should lead to the more frequent employment of resection of the posterior arches and laminæ; *a*, in all cases in which depression of these portions, either from fracture or dislocation, is obvious; *b*, in some cases in which after fracture rapidly progressive degenerative changes manifest themselves; *c*, in all cases in which there is compression of the cauda equina from any cause, whether from anterior or posterior fracture or from cicatricial tissue; *d*, in the presence of characteristic symptoms of spinal hemorrhage, intra- or extra-medullary.

3. Operation is contra-indicated by a history of such severe crushing force as would be likely to cause disorganization of the cord. The question which will remain in doubt previous to operation will usually be that of the extent of damage done to the cord, and the possibility of its taking on a reparative action. As to this, the safest rule is that which has been formulated by Lauenstein, namely, that if after the lapse of six or ten weeks there is incontinence of urine or incontinence of fæces, and especially if there is also the development and spreading of bedsores, but little is to be hoped for from the unaided efforts of nature. If, however, these symptoms are absent, and if there be the least improvement, it will be proper for the surgeon to delay operative interference still longer.

DR. H. H. MUDD, of St. Louis, dwelt upon the importance of remembering the liability of severe shock in these spinal operations. He reported three cases of bullet wounds of the spinal column, one of which ended fatally.

DR. JOHN B. ROBERTS, of Philadelphia, insisted that injuries and diseases of the spine of a surgical kind should be treated as we treat injuries of the cranial cavity. Cases of Pott's disease with angular curvature have been referred to, but sufficient stress has not been laid upon the fact that many of these cases with motor paralysis improve under ordinary remedies, the inflammatory exudation being absorbed. In traumatism of the spine we should explore the spine as we should explore the brain. In severe injuries with fracture spiculæ of bone are often driven down on the cord.

DR. J. J. PUTNAM, of Boston, thought that the dangers of inflammation had not been sufficiently dwelt upon. Some cases of spinal injury, after one to four years, show some improvement. In such cases an operation may add to the improvement.

DR. JAMES MCCANN reported two cases of spinal injury in which operation had been performed. In one death followed. In the other there was great improvement.

The Treatment of Tuberculosis of Bones and Joints by Parenchymatous and Intra-articular Injections, by DR. N. SENN, of Chicago. The following conclusions were presented:

1. Parenchymatous and intra-articular injections of

safe anti-bacillary substances are indicated in all subcutaneous tubercular lesions of bones and joints accessible to this treatment.

2. Of all substances so far employed in this method of treatment, iodoform has yielded the best results.

3. The curative effect of iodoform in the treatment of local tuberculosis is due to its anti bacillary effect, and its stimulating action on the healthy tissues adjacent to the tubercular product.

4. A ten per cent. emulsion in glycerine or pure olive-oil is the best form in which this remedy should be administered subcutaneously.

5. The ethereal solution should never be employed, as it is liable to cause necrosis of the tissues overlying the abscess, or iodoform intoxication.

6. Tubercular abscesses, and joints containing synovial fluid or tubercular pus, should always be washed out thoroughly with a three to five per cent. solution of boracic acid before the injection is made.

7. Injections should be made at intervals of one or two weeks, and their use persisted in until the indications point to the cessation of tubercular inflammation and the substitution for it of a satisfactory process of repair, or until the result of this treatment has shown its inefficacy, and indications present themselves of the necessity of resorting to operative interference.

8. If the treatment promises to be successful, symptoms pointing to improvement manifest themselves not later than after the second or third injection.

9. In tubercular empyema of joints and tubercular abscess, gradual diminution of the contents of the joint or abscess at each successive tapping, lessening of the solid contents of the fluid and increase of its viscidity, are the conditions which indicate unerringly that the injections are proving useful, and that in all probability a cure will result from their further use.

10. Moderate use of limb is compatible with this method of treatment, provided the disease has not resulted in deformities which would be aggravated by further use of the limb. In such cases correction of the deformity should be postponed until the primary joint affection has been cured by the injections.

11. Parenchymatous and intra articular medication with anti-bacillary material, has yielded the best results in tubercular spondylitis attended by abscess formation, and tuberculosis of the knee and wrist joints.

12. This treatment may prove successful in primary osseous tuberculosis followed by involvement of the joint, provided the osseous foci are small.

13. Extensive sequestrums of articular ends, with secondary tubercular synovitis, always necessitate resection; but preliminary treatment by iodoform injection into the affected joints constitutes a valuable preparatory treatment to the operation, and adds to the certainty of a favorable result.

14. In open tubercular affections of joints, incision, scraping, disinfection, iodoformization, iodoform gauze tampon, suturing, and subsequent injection of iodoform emulsion, is advised, and yields excellent results, and should be employed in all cases in which a more formidable operation can be avoided.

15. Balsam of Peru ranks next to iodoform in the treatment of tubercular affection of bones and joints, and if the latter remedy for any reason cannot be employed, or has failed in effecting the desired result, it should be given a fair trial, if operative treatment is not urgently indicated.

AMERICAN NEUROLOGICAL ASSOCIATION.

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SECOND DAY, WEDNESDAY, SEPTEMBER 23D.

The Pathology of Hysterical Anæsthesia, Illustrated by Two Cases Showing Some Unusual Phenomena.—DR. MORTON PRINCE, of Boston, read a paper on this subject. The peculiarity of these cases was that notwithstanding the presence of deep anæsthesia it could be proved that the patient felt any impression given to the hand. Pinching and pricking the skin was not perceived, but when the subjects were hypnotized they could accurately describe the tests which had been applied to the anæsthetic parts, and of which they had not been conscious. This showed that the impression was felt but not perceived. The most probable explanation was that the middle sensory centres (of Hughlings Jackson) were normal, but that in hysterical anæsthesia there is an inhibition of the highest sensory centres where the impressions are co ordinated with the other psychical states constituting consciousness.

Tumor of the Cerebellum, in which Trephining was Done for the Relief of Pressure.—This was a joint communication by DRS. KNAPP and E. H. BRADFORD, of Boston. The case occurred in a man, twenty-eight years of age. Family history was negative; had polio myelitis at seven months; well until 1889, then had right occipital headache, which increased; diplopia, dimness in vision, and double optic neuritis; then convulsive attacks; headache increased, and nausea and vomiting came on; became blind and lost sense of smell. Not benefited by iodide in large doses. Later, loss of hearing, some difficulty in swallowing and in articulation. Mental condition good. No involvement of thoracic organs. Operation performed by Dr. Bradford, who trephined right temporal region over Sylvian fissure. Pain was relieved. Hernia cerebri followed. Death occurred at the end of two months. At the autopsy tubercle was found in the left lobe of cerebellum.

Trephining and Excision of the Cortex for Jacksonian Epilepsy.—This was a joint communication by DRS. W. W. KEEN and C. K. MILLS. The patient was an adult who ten years ago was attacked with left hemiparæsthesia. Five years later this was accompanied by left hemispasm. The seizures increased in frequency, without unconsciousness. There was no paralysis. It was first thought it might be hystero-epilepsy and was treated accordingly without benefit. At last attacks became more severe, accompanied by unconsciousness. Dr. Keen trephined over motor cortex and removed the centres for the shoulder and upper arm. There were found thickening and sclerosis of bone and a small growth from the dura, which, upon microscopical examination, proved to be a sarcoma. Three days after operation there was paralysis in arm and leg, but power returned completely by the thirtieth day. No sensory symptoms supervened. During eight weeks after operation numerous attacks occurred, but they were of milder character. Eventually there was further improvement.

Porencephalus, in which Trephining was Done for the Relief of Local Symptoms; Death from Scarlet Fever; Exhibition of the Specimens.—This paper was contributed by DRS. DE FORREST WILLARD and JAMES HENDRIC LLOYD. The patient was seven years of age, and had spastic hemiplegia of cerebral origin. There was inability to walk and internal strabismus. Muscular development was good. There was no anæsthesia, no antecedent history obtainable. There were convulsions followed by enfeeblement of mental faculties and athetoid movements of right arm. The child was getting rapidly worse and was trephined by Dr. Willard. The patient developed scarlatina three days after the operation and died on the eighteenth day. At the autopsy there were no signs of meningitis but there was demonstrable porencephalus involving the Rolandic region.

DR. DANA, in opening the discussion, said that there was no question as to the validity or utility of operation in certain cases. The points that he would like to hear brought out were as to the propriety in operating in cases of Jacksonian epilepsy, tumors, for the relief of pain, and in porencephalus. He maintained conservative views on this subject, but would like to hear opinions relating to details in excision of the cortex, and as to operation for infantile cerebral hemiplegia. These cases were

often associated with epilepsy, imbecility, or idiocy. He would like to hear more as to the operation for cerebral tumor. He referred to his recent collection of the histories and specimens of twelve cases of cerebral tumors which had not been operated upon. Three could have been recognized, localized, and operated upon. Two others were well-defined sarcoma in the middle of central convolutions.

DR. B. SACHS mentioned that during the past year he had seen numerous cases bearing upon this question. The result of surgical interference in focal epilepsy he thought particularly distressing. He referred to Dr. Mills's case, and said that unfortunately, in spite of the operation, the epileptic attacks persisted. It had been shown that after removal of focus the secondary degeneration also affected the cortex. In cases of tumor, operation is more favorable, as secondary degeneration is less thoroughly established. In focal epilepsy we may render the case improved but not cured. He believed that no one could point to a single case with freedom from attacks for two years after operation. In operating upon porencephalus it would seem to be increasing the size of an existing cavity. Infantile cases should be carefully selected or the operation would fall into discredit. In porencephalus the motor symptoms are surprisingly great, while the mental symptoms are slight. Everything points to a pre-natal effect, rather than to an acquired cerebral palsy. Such cases as the latter are suitable for operation if seen at an early stage. This condition is frequently due to meningeal hemorrhage, and we should operate early. If secondary degeneration has taken place the operation is useless.

DR. NANCREDE, of Philadelphia, agreed with the previous speaker as to early operation, and cited a case in which no spasm had occurred for three years after operation for focal epilepsy of long standing. He believed that hernia cerebri after operation occurred as a result of encephalitis.

DR. BREMER, of St. Louis, called attention to the importance of testing the muscular irritability in hemiplegic lesions by applying the faradic current to the shaven scalp. He had found the irritability greater on the affected side. He spoke of a successful case of operation for focal epilepsy, and had examined the excised portions of the cortex. There were no changes in the cellular elements, but there was abundant and excessive hemorrhage in the intervascular spaces. This should teach us the precaution to avoid too much pressure on the cortex while operating.

Seven Recent Cases of Brain Surgery.—DR. WILLIAM A. HAMMOND presented the history of seven cases in which he had operated for the relief of epilepsy or paralysis, and said that the cases were of somewhat different character, for not only was the seat of a real or supposed injury a factor in determining where to operate, but the symptoms, their nature and location, were even of more importance in deciding upon the situation of the disease, the consequent point on the skull with which it was in relation and the extent to which the operation should be carried.

DR. DAVIS, of Philadelphia, referred to meningeal hemorrhage in the newly-born as being generally due to disease in the mother, such as chronic nephritis, thus transmitting vascular degeneration to the infant and a predisposition to hemorrhage. He believed in the propriety of early surgical interference only in marked cases, but the results were unsatisfactory where the mother suffered from constitutional disease.

DR. BULLARD, of Boston, agreed with Dr. Sachs in his views as to the selection of suitable cases for operation in young children, and said that although we cannot cure the focal epilepsy, we may alleviate many unpleasant symptoms. He referred to one of his recent cases in an adult with hemiplegia and epilepsy. The patient was trephined, and a hemorrhagic cyst evacuated. No attacks had occurred in two months. He thought it too early after operation to report the case. He believed that hernia cerebri may be due to a neglect of septic precautions.

DR. J. J. PUTNAM, of Boston, said we deceive ourselves in believing because there are local spasms that there must be focal disease.

Extreme diffuse lesions may give rise to focal symptoms. He cited a case in illustration. This fact explains some of the unsuccessful results of excision. He agreed with Dr. Sachs in the view that the changes in epilepsy are diffuse, and advance independently of the bone lesion.

DR. KNAPP held the same opinion as to the gloomy outlook in cases of trephining for focal epilepsy, and referred to an unsuccessful case in illustration.

DR. MORTON PRINCE, of Boston, agreed with Dr. Putnam in regard to diffuse lesion causing focal symptoms. Literature did not seem to furnish histories which would enable us to discover the final results in focal epilepsy. We should operate and give the patient every possible benefit. He thought the relation of sensory to motor symptoms of importance. The sensory symptoms were most likely functional.

DR. KEEN, in closing the discussion, said he was not aware of the character of the tumor at the time of operation. Possibly its removal without excision of the cortex would have been better. He has had no case of positive and permanent cure. The operation, he thought, was warranted, owing to the probability of relief. As to the existence of secondary degeneration in these cases he has been unable to verify this by microscopical examination. Cases of defective development, such as porencephalus should not be operated on, but operation may prove beneficial in cases of microcephaly, but the patient is exposed to greater danger. In thirty-seven such cases there were nine deaths.

DR. MILLS said we had much to do in regard to the study of focal symptoms. Operation was unwarranted in porencephalus. He suggested direct medication of the cortex in certain cases instead of excision.

Tumor of the Mesencephalon with Exhibition of the Brain.—DR. LLOYD read a paper with the above title, reported the history of the case, and exhibited the specimen.

Tubercular Infection of the Central Nervous System.—DR. B. SACHS read a paper with this title. In the two cases serving as a basis for the paper, the patients had been received into the "Montefiore Home" for a non-tubercular disease of the central nervous system. In the one case, a large hemorrhagic cyst in the cortex was the residue of the process, giving rise to an infantile spastic hemiplegia in the vicinity of this cyst. Soon after admission to the "Home," where there were many patients with phthisis, a solitary tubercle of enormous size was developed, which led to a rapidly fatal termination.

In the second case, a tubercular infection hastened the course of an old chronic myelitis. The history of this case is about as follows:

J. R——, a Russian, aged sixty; family history entirely negative; well until two years and a half ago; then, after an exposure to cold, noticed a weakness of both legs; greater in the left than the right; this paresis gradually increased, associated with slight vesical symptoms. No change in symptoms for some months; then quite suddenly, about five months after his exposure to the phthisical contagion, he became absolutely paraplegic, and the reflexes of the lower extremities increased; bladder symptoms and bedsores are developed, the paralysis extends upward, first to the right arm and then to the left; anæsthesia as far as navel from below upward, and gradually extending to the lower margin of the second rib; patient has high fever, becomes rapidly emaciated, and dies about three weeks after onset of the absolute paraplegia.

Post-mortem examination: Entire absence of brain lesions, no tubercular meningitis anywhere; but the most widespread destruction of the cord from the second to the

twelfth dorsal segments, with ascending and descending degenerations. In the mass of destroyed tissues the tubercle bacilli were found in large numbers.

Dr. Sachs insists on the fact that the preceding disease of the cord furnished an excellent soil for the growth of the bacilli, and instead of growing in the lung tissues, or even in the meninges, they have grown upon the diseased substance of the cord itself. It is proper, therefore, to speak of a tubercular invasion.

DR. HUGHES referred to the unusually rapid termination of these cases with tubercular infection.

Lead-poisoning, with Special Reference to the Spinal Cord and to Peripheral Nerve-Lesions.—DR. E. D. FISHER reported a case of chronic lead-poisoning in a man aged thirty-four. The microscopical findings showed peripheral nerve-degeneration, and sclerotic changes in Goll's columns, in the antero-lateral tract, in the region of the posterior spinal nerve-roots, as well as degeneration in the anterior cornua. He was of the opinion that lead, and probably also arsenic, affect independently the peripheral and central nervous system.

DR. DANA had seen the specimens, but was unwilling to say the lesions were due to lead. Lead seems to possess a selective action for the peripheral nerves. He thought the changes more marked in the nerves than in the cord.

DR. RIGGS, of St. Paul, believed with Dr. Dana that lead usually affected the peripheral nerves, but in this case he thought the lesion was more likely due to arterial sclerosis.

DR. LLOYD then showed microscopic sections from a case of lead-poisoning that had developed locomotor ataxy.

DR. DANA presented, in behalf of Dr. Joseph Collins, two new methods of Weigert for staining specimens.

A Neuro-topographical Bust was exhibited by DR. WILLIAM C. KRAUSS, of Buffalo. The author defines a neuro-topographical bust as one showing the topography of the nervous system of the head and neck. Such a one might be of service to the neurologist as a means of reference and comparison, and to the surgeon as a guide in the location of the cortical centres of the brain. The bust is modelled in plaster, life size, and offers the following special features: The fissures of the brain are represented by grooved lines which are deep or shallow according to the size of the respective fissures in the human brain. In order to make them more visible they have been traced in black. The lines cannot represent accurately the intricate windings of the several fissures, but give a general outline, and thus show the relation which they bear to one another and to the cranium. The face and neck represent the various electro-motor points of the muscles and nerves. The motor points of the trunk and several branches of the trigeminus, the hypoglossal, accessorius, etc., are indicated by circles—which, to render them more apparent, have been painted yellow. The course of the brachial plexus and phrenic nerves in the neck are marked by slightly grooved lines also painted yellow. In contrast to the nerves, the motor points of the muscles are represented by smaller circles which have been painted red. The various points may be designated by small printed slips or by figures and a reference table.

AMERICAN GYNECOLOGICAL SOCIETY.

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SECOND DAY, WEDNESDAY, SEPTEMBER 23D.

A Unique Case of Multiple Neuro-lipomata following Laparotomy.—DR. H. MARION SIMS, of New York, reported in this paper the following unique case: A strong healthy girl, never sick, married at the age of eighteen, in 1884, and afterward suffered from vaginismus, which Dr. Sims cured by excision of the hymen. Two months afterward she began to suffer from severe pain in the region of the ovary and had epileptiform convulsions. A cystic ovary was felt, and as the patient was pregnant he thought the symptoms might be due to pressure of the gravid uterus upon the sensitive tumor. She was allowed to go to term, but even then the pain, etc., continued, and laparotomy was performed. Both tubes and ovaries had undergone change, and therefore were removed. He was sent for again in the summer of 1885, when he found her suffering extreme pain in the thick walls of the abdomen near the umbilicus. He was able to feel two or three round bodies, like shot, beneath the skin, the removal of which was followed by complete relief in a short time, when others made their appearance in the near neighborhood. They were excised as they continued to develop, and finally the entire abdominal walls were scarred by the repeated operations. A few, in the course of the four or five years during which these growths developed, appeared in the skin of one arm and on one thigh. They were found to be little nerve-nodules in adipose tissue, connected by a small nerve with the nerve system. Many physicians, including specialists, saw the patient in consultation, none of whom had seen the like before. The last nodule was removed over a year ago, since which time the patient had been well. Nothing but excision gave relief, even morphia failing to allay the pain.

The President's Address.—DR. A. REEVES JACKSON, in the first part of his Address, referred in terms of sorrow to the loss by death of members during the year. The last original member whom they had to mourn was the lovable and beloved Dr. Fordyce Barker, who had in the spring passed away from his labors full of years and honor. Other members recently lost were Drs. David H. Storey, an honorary member from Boston, and George H. Lyman, of Boston, one of the founders.

Changes Undergone by Gynecology since the Foundation of the Society.—The body of the Address recited some of the changes undergone by gynecological science since the foundation of the Society in 1876. It showed the errors which had been committed by enthusiasts in carrying to extreme operative procedures as they came into fashion from year to year during that period. A considerable amount of the reproach was connected with extirpation of the uterine appendages. It was worse than a crime to perform a serious, mutilating, and dangerous operation which could be avoided by simpler treatment. There was too common examination of the pelvic organs of unmarried girls and women. What might we expect from this conduct upon the *morale* of girls just entering upon womanhood.

The progress of medical science was impeded by immature announcements of results. Papers admitted to the volume of "Transactions of the Society" especially should undergo close scrutiny as to their scientific value. The Address pictured a high scientific and moral ideal for the members to strive for.

Cancer of the Cervix Uteri—Results in its Treatment by High Operation.—DR. WILLIAM H. BAKER, of Boston, read the paper. Reference was made to the difficulty of tracing the after-history of cases treated, yet he had been able by great labor to trace all those cases which he first reported in 1882. Cases failed so often to come in time for anything like a radical operation because the early symptoms of uterine cancer were not marked, and the patient was likely to attribute any flow to the change at the menopause; and also because of the ignorance of the practitioner in failing to appreciate the condition present, or in lacking in faith in the efficiency of an operation. Eight of the ten cases operated upon by high amputation, first reported in 1882, were then well. In a second report on these cases, 1886, six cases were yet alive. Thus sixty per cent. of the cases were alive four years after the operation, and fifty per cent. were still alive, ten to twelve years after the original operation. A second series included cases operated upon between 1882 and 1889. Of this number—sixteen—in none did death

take place primarily from the operation. In ten there had been no return of the disease. One was well after eight years, two after seven, three after six, three after three, one after two years. Thus there had been no return of the disease in 62.5 per cent. of the cases. Where there had been recurrence, in one it was after six years, in one after two and a half years, in one two years, in one one year, in one in eight, and in another in five years. The points in favor of the operation, as opposed to hysterectomy, were greater safety to the patient and longer respite from recurrence. Thorough removal should be practised, following the scissors and scalpel with the cautery. High amputation should be practised in all cases of cancer of the cervix which had not become fixed by extension of the disease.

Dr. John Byrne explained his method of operating alone by the cautery.

Dr. Reamy made an eloquent appeal for the high-amputation method in the cases described.

Drs. Janvrin, W. Gill Wylie, and T. A. Emmet also discussed the paper, defending vaginal hysterectomy, although not opposing high amputation in some cases.

The Best Posture in the Different Stages of Normal Labor.—Dr. H. J. Garrigues, of New York, read an abstract of a paper on this subject. A change, he said, had taken place in the customary position in which women were delivered in the United States. Now some spoke of an American (dorsal) position, as opposed to English (left lateral), while, until thirty years ago, nearly all American obstetric writers recommended the English position. In deciding the posture which a woman should occupy during labor, we must take into consideration her comfort and safety, the child's safety, and the accoucheur's comfort, which again contributed to the mother's safety. While the child is passing through the bony part of the parturient tract the semi-recumbent position is best. The contraction of voluntary muscles and gravity co-operate with the contraction of the womb; the entrance of the head into the superior strait is favored; the stethoscope can easily be applied to the abdomen; manual pressure may be exercised on the womb. Sometimes a change of position is useful. When the vulva begins to open, the patient should be turned on her left side, and lie horizontally, her thighs at right angles with the trunk and the legs, and the lumbar region stretched. All support should be taken away from the hands and feet, and chloroform should be given. In this position the os coccyx has free scope to recede, the genitals become visible and easily accessible, while the rest of the body remains covered. The fundus uteri sinks down so that gravitation works in a direction opposite that of uterine contraction. These facts and others showed that the left lateral position offered a safeguard to the perineum. During and after expulsion of the placenta, the woman should be on her back, a position favoring Credé's method. The kneeling, squatting posture is fatiguing, predisposes to hemorrhage, makes the use of the stethoscope difficult, nearly precludes any kind of protection of the perineum, and renders the use of chloroform impossible. In cases of lingering labor it may be tried like other positions.

The Influence of Imperfect Development as a Cause of Uterine Disease.—Dr. W. Gill Wylie, of New York, said his paper was merely an elaboration of some observations presented in one which he had published nearly ten years ago. The author believed that the customs of our civilization tended to develop the brains of girls at a time when their physical energy should go to the development of the generative organs. The resulting imperfect development of the uterus rendered that organ susceptible to disease, such as catarrhal endometritis, and when afterward it should be called upon to perform important functions one was likely to find sterility or rupture of the cervix because of previous disease, etc. Reference was made to the greater prevalence of uterine troubles in the higher states of civilization; in support of this view the argument being reinforced by comparison with the animal kingdom. More out-of-door exercise, less urging at school, less mental excitement by contact with adults, was recommended by way of prevention. In treating diseases after they had arisen, the part acted by imperfect development of the uterus should be borne in mind.

The Technique of Vaginal Fixation of the Stump in Abdominal Hysterectomy.—Dr. Henry T. Byford, of Chicago, read the paper. Encouraged by the success obtained in the treatment of the stump in abdominal hysterectomy by vaginal fixation (nineteen cases with one death), I have thought it proper to again present the subject. All new methods suffer from the want of experience of the operators. During the past year I have added a little to my experience with it, and desire that anyone wishing to try it should have the advantage.

With regard to the first three steps, as given in last year's communication, viz., ligating the broad ligaments, separating the bladder from the uterus, and placing the elastic ligature, guarded by pedicle pins, I have nothing to add except that I begin separating the peritoneum an inch above the attachment of the bladder. As to ligating the stumps in three parts, I sometimes do this and sometimes only ligate the outer thirds or quarters which contain the large vessels, and place the sutures on the pared edges deep enough to act as efficient hæmostatic agents. The latter procedure is sometimes an easier and quicker one in stumps that are dense and not unusually vascular in structure. The ends of the ligatures are all left about four inches long, as before described. I have not yet seen fit to neglect an efficient ligaturing of the stump, so as to depend entirely on the clamp.

The elastic ligature is removed and the vagina perforated by hæmostatic forceps pushed down between the thumb and cervix, as the stump is held in the palm of the left hand—a very easy manœuvre. I enlarge the vaginal rent by two short scissor-snips laterally, two short ones diagonally, and a longer one forward in the median line under the slightly separated bladder. The longitudinal median cut bleeds less than a lateral one of equal length. The vaginal walls are held well up by forceps, so that there need be no danger of wounding the bladder, nor of losing sight of any large vaginal artery that might possibly be severed.

The stump is then turned into the vagina and the long ends of the ligatures given to an assistant, who draws them out of the vulva and holds them.

Instead now of putting on the clamps, I leave that as the last step, as was suggested to me by Dr. Merriman, of Chicago. The advantage of this is twofold; the peritoneal cavity is closed before I soil my hands by the vaginal manipulation, and the sewing of the peritoneum over the stump can be done nearer the surface than if it were held down rigidly by the clamps.

I then put the fingers of my left hand in the cul-de-sac of Douglas, and lift the cervix as high up toward the surface as possible, and sew the peritoneum from the bladder to the posterior wall of the cervix. As this may become a very difficult procedure in fleshy patients, I will give the steps in detail: I grasp, with needle-forceps, a short, straight needle, armed with fine catgut, pierce through the bladder and peritoneum near the left stump, then through the peritoneum on the posterior surface of the cervix, and direct my assistant to tie a knot, which brings the bladder and peritoneum back over the stump; this while I am keeping my left hand in place under the stump, holding the intestines out of the way. Then I pierce the bladder-peritoneum and cervical-peritoneum again with my needle and place an uninterrupted suture across to the other pedicle. The catgut is drawn tight and the two ends tied before I remove my left hand and liberate the intestines. It is surprising what a small wound is left. In case the pelvis be deep I have the foot of the table raised for better light, and to help keep the abdominal contents out of the way. The matter of keeping the operator's left hand steadily in place during the

suturing is important, as the hand of an assistant is more in the way in a deep pelvis, and must manipulate the intestines more to keep them out of the field. If there remain any oozing, an extra catgut suture is passed so as to check it. The peritoneal cavity can now usually be closed without drainage.

The patient is then placed in the lithotomy position, the vagina opened by retractors, the clamp slipped over the stump, oozing from the anterior wall of the cervix checked by diluted Monsel's solution, and the vagina loosely packed with iodoform gauze, to be left for three days. At the end of the fourth day the vagina is gently irrigated with plain warm water, and after that twice a day with a one per cent. carbolic solution.

Suggestions of Certain Rules to be followed in Efforts to Prevent Mural Abscesses, Abdominal Sinuses, and Ventral Hernia after Laparotomy.—Dr. H. T. Hanks, of New York, read the paper. In trying to avoid mural abscess, which made hernia more liable, make a clean cut wound, not lacerating, separate the layers carefully, do not retract the lips with too much force or too long pressure, do not use too hot water, or too strong a germicide on the lip, have the abdomen aseptic by keeping on a germicide dressing a few hours before the operation. Do an aseptic operation. Change the sterilized dressing every second day. Before cutting the sutures have the patient wear a moist bichloride dressing, two or more hours, and be sure no sepsis is drawn into suture tract. Make no unnecessary punctures with needles. Do not strangulate the wound with too tight tying of deeper sutures. Sinuses are as often due to the drainage-tube as to ventral hernia after laparotomy; he believed it was much more common than generally supposed. To prevent it, he strongly urged uniting homologous tissues in closing the laparotomy wound.

Some Clinical Testimony as to Ultimate Results of Removal of the Uterine Appendages.—Dr. Thaddeus A. Reamy, of Cincinnati, read a paper with this title. Cases of malignant disease and ovarian tumors were excluded. The operations were performed from 1885 to 1889. They were 164 in number, in 144 both ovaries and tubes being removed. His conclusions were: 1. Pyosalpinx does not exist in nearly as large a proportion of pelvic disease encountered in patients among the middle and upper classes as is generally taught. 2. In cases from this class gonorrhœa does not play so important a rôle in the causation of the disease as is generally believed. 3. In properly selected cases, where otherwise incurable disease of the appendages exists, the results from surgery are not only satisfactory, but are brilliant. 4. In properly selected cases removal of the uterine appendages is more promising of relief of hystero-epilepsy than is generally conceded. 5. The practice should not be continued in the treatment of purely neurotic cases. 6. Many cases of manifest pelvic disease, including disease of the ovaries and tubes which are cured by removal, could be as thoroughly, as promptly, and more satisfactorily cured by more conservative methods without the sacrifice of these important organs. 7. Many cases reported by operators as cured are found after a few years to be no better off than before the operation. 8. Arrest of the menopause after removal of the ovaries, which took place in so large a number of the cases, tends to confirm the belief that the ovaries bear an important relation to this function. 9. The influence of removal of the appendages upon the sexual appetite has not heretofore been correctly stated (in many cases the sexual appetite was lost or much diminished). 10. The relation of this influence to the psychoses which had so often followed the otherwise satisfactory results of this operative procedure is worthy of serious consideration.

Indications for Laparotomy in the Treatment of Puerperal Fevers.—Dr. R. B. Maury, of Memphis, reviewed this subject in a general way, and related some cases which he had operated upon for laparotomy. There were three classes of cases: Those in which there was recognizable pelvic collection of septic matter, limited; those in which there was general diffuse septic peritonitis; and those in which pre-existing tubal or other abscess had burst during labor. In the first and last classes the indications were to operate. In the diffuse form he had operated twice, in both rather late; one patient survived the operation two months, and then died of exhaustion. But it was not always easy to make an early diagnosis, while the success of an operation depended much upon the date at which it was undertaken.

A Study Relative to the Function of the Reproductive Organs in American Indian Women.—Dr. Andrew F. Currier, of New York, expressed his thanks and obligations to the Indian Department in helping him get the reliable information contained in this paper. Regarding puberty among Indian girls, it took place about the same time as in whites in like climates. Some peculiar customs were gone through with when the girl began to menstruate. The menopause came on usually from forty to fifty years of age. Husband and wife left one another among some tribes, as they felt like it. The women do the drudgery. Childbirth takes place in the squatting posture, often without the presence of even a midwife. Conjugal fidelity is not marked. Both local and constitutional venereal disease is common, which would far explain the large infantile mortality. There is little disease of the pelvic organs, except among the civilized tribes. Abortion is brought on by a stick introduced into the vagina or by force applied over the abdomen.

AMERICAN DERMATOLOGICAL ASSOCIATION.

(Continued from p. 357.)

Second Day, Wednesday, September 23d.

Election of Officers.—The following officers were elected for the ensuing year: *President*, Dr. Bronson, of New York; *Vice-President*, Dr. Shepherd, of Montreal; *Secretary and Treasurer*, Dr. Jackson, of New York. Drs. Elliot and Heitzman were elected members of the Association.

The location for the next meeting was voted to be at Casco Bay, Me., and the date set for the Tuesday nearest the 10th day of September.

Tuberculosis of the Skin.—Dr. White, of Boston, opened a discussion on the "Clinical and Etiological Relations of Cutaneous Tuberculosis." After a consideration of lupus vulgaris, tuberculosis verrucosa cutis and verruca necrogenica were taken up. The shallow ulcerations about the natural orifices of the body in patients with advanced phthisis, and due to local inoculation, were not considered of sufficient importance to warrant a separate class. Tuberculous eczema, a term used to denote an eczematous condition surrounding tuberculosis, is as objectionable as that of syphilitic eczema and should be dropped. There are undoubtedly forms of cutaneous tuberculosis about which we know but little at present, and many obscure conditions are only made clear by concomitant gland, bone, or other lesion which point to the proper diagnosis.

There is little remaining doubt that the bacillus is the direct exciting cause of all tuberculous affections. This is due to the universal presence of tubercle bacilli in all the clinical forms, including scrofuloderma. That the bacillus is always the same and identical with the bacillus of tuberculosis pulmonalis, is proven by inoculation experiments. The cutaneous forms of scrofuloderma when inoculated in Guinea-pigs produce tuberculosis; so do the bacilli of lupus, but only after a longer interval. Thus Leloir has been led to express the opinion that it is the quantity and not the quality of the bacillus which determines the effect produced. Syphilis and lepra are quite as difficult to reproduce by inoculation, but none the less their bacillary nature is quite generally believed, and the proof will probably soon be forthcoming.

Auto-inoculation is another proof of the transference

of the bacillus from one host to another. Many clinical cases show that cutaneous lupus or tuberculosis occur after the evacuation of matter from glandular and bone lesions near the surface opening. Lupus also often occurs on the seat of wounds. Transference from one person to another does not always produce the same form of lesion in the second individual, and the low vitality of the bacillus accounts for the rarity with which this transfer takes place. Numerous reports show how cutaneous tuberculous ulceration can result from ritual circumcision. The saliva of phthisical patients has frequently been seen to cause tuberculosis of the skin. Cutaneous tuberculosis of the hands is not infrequently found upon the hands of nurses and those who care for consumptives, washerwomen who handle the handkerchiefs covered with sputa, etc. Many clinical cases are cited in confirmation and illustration of this transfer to the cutaneous surface. The days of diatheses are numbered, and scientific experimentation will take the place of this explanation. Why should we not accept inoculation as an explanation for tuberculosis when we do not hesitate to do so for syphilis? Another proof is the association of pulmonary tuberculosis and cutaneous tuberculosis in the same individual. In Besnier's statistics twenty-one per cent. of lupus cases died of phthisis. Others have found much the same proportion. The writer cites three of his own cases where lupus was associated with tuberculosis of the lungs. The development of internal tuberculosis after cutaneous lesions are explained by direct transfer of the bacillus from open wounds. Some cases have been reported where, after scarification of lupus, such general phenomena have been noted as occur after inoculations with tuberculin.

The essential identity of all forms of cutaneous tuberculosis is believed by the writer to be proven by the mass of evidence presented. We cannot deny intra-uterine infection, but is it longer necessary to accept heredity? From the evidence collected within the past few years are we not justified in looking upon all forms of cutaneous tuberculosis as different phases of the same affection, and would it not simplify matters to drop the terms lupus and scrofuloderma? The sooner it is made apparent to the public that all tuberculosis is susceptible of transfer and dangerous to the well, the sooner we will be in a position to successfully combat it.

The Pathology of Tuberculosis of the Skin.—This branch of the question was discussed by DR. BROWN, of Boston. The tubercle, which is the product of the bacillus, is a nodule of so-called granulation tissue, composed of small round cells, together with larger cells, possessing a clear nucleus and large cellular elements with peripherally arranged nuclei and homogeneous centre, the Langhaus giant-cells. Cheesy degeneration is a term which should be restricted to the macroscopical appearance, and be dropped from the nomenclature of microscopy, as it is found in other conditions. Giant-cells are in the same way found in syphilis and other conditions, though a certain amount of diagnostic value must still be allowed to it. The doctrine of to-day reads, "every neoplasm that contains the bacillus of tuberculosis is tubercle, and in every tubercle the bacillus must be present, however sparingly." The first signs of new tubercle are epitheloid cells, which are seen to be produced from the fixed tissue cells by karyokinesis and not from the leucocytes or small round cells. Caution must be observed in assertions that they are produced from the fixed cells alone. There is no suppuration in tubercle, strictly speaking, and no pus-cells are found. A real suppuration is only present when tuberculosis is complicated with a septic process.

Miliary tuberculosis of the skin represents almost exactly the tubercle of internal organs. Clinically, it consists in painful ulcers situated at the juncture of mucous membranes in patients with tuberculosis of internal organs. It is also met with on mucous membranes alone. Miliary tubercle in the form of yellowish-white transparent nodules, can usually be seen. Such ulcers are rare. Here the cutis is found to be filled to a considerable depth with small round cells with occasional epitheloid and giant-cells of Langhaus. In the case examined by the reader, tubercle bacilli were present in large numbers. The differences between this form and lupus are those which distinguish an acute from a more slowly progressing tuberculosis.

Scleroderma.—Here the subcutaneous tissue and lower portion of the corium are the seat of the morbid process, which often starts from a lymph-gland. The anatomical character differs in no essential manner from tuberculosis of internal organs. The degenerative changes which subsequently take place are usually found further advanced than is the case in lupus. Specific tubercle bacilli are always present.

Lupus.—Here the starting-point is in the corium, progressing upward by extension of foci of disease. Non-specific alterations of the epithelial elements are secondarily produced, as a rule. From a purely anatomical standpoint lupus cannot be separated from tuberculosis. The rôle of the leucocytes in lupus has been greatly exaggerated and the fixed tissue-cells are, at least in the main, the parents of the epithelioid and giant-cell formations. The recent views of Unna and others were discussed at some length.

Tuberculosis Verrucosa Cutis.—This form is nearly, if not quite, identical with the "anatomical wart" of the dissecting-room. Here the papillæ are greatly elongated and enlarged, and covered with a lamellated horny layer. The interpapillary prolongations are hypertrophied. The principal changes are found in the upper layers of the corium, the papillæ, and adjacent layers. The histological appearances of tubercle are well defined. More bacilli are found, in the experience of Riehl and Paltauf, than in lupus, but less than in the miliary form. The inflammatory appearances often present are not, in the writer's experience, sufficiently constant to render their absence a point of consequence. The reader has found the bacilli as difficult of detection here as in lupus. The situation of the tuberculous neoplasm offers the chief anatomical characteristic, and is the superficial seat of the process. The process should be separated from lupus.

AMERICAN LARYNGOLOGICAL SOCIETY.

(Continued from p. 359.)

SECOND DAY, WEDNESDAY, SEPTEMBER 23D.

Nasal Papillomata.—A paper with this title was read by DR. JONATHAN WRIGHT, of Brooklyn. In several hundred cases of nasal growths of various kinds, he had seen only one true case. Hoffman's statement as to their great frequency, he could not at all agree with. The term papillomata was an indefinite one, and was used by different men to refer to different conditions. Even Virchow has contradicted himself, verbally at least, in the discussion of this class of growths. A true and preferable term would be papillomatous fibroma. This was a growth with an epithelial covering, into which projected a vascular loop, supported in turn by a fibrous stroma. The microscope alone could therefore settle the diagnosis. Papilloma pure and simple is correctly used in reference to a surface phenomenon. Hoffman had used the term adenoma papillæ, but many growths of this nature were simply masses of chronic hypertrophic inflammation. They are masses of glandular hyperplasia with increased vascularity. These are matted together by mutual compression, and often have a crumpled surface. There are various degrees of the process. Most true papillary fibromata grow from the cartilaginous septum or from the floor of the nose. Hoffman's masses grow most frequently from the inferior turbinated. This difference in site is of clinical service in differential diagnosis, but the latter can be definitely settled only by the microscope. We should always remember that the mucocutaneous junctions are the favorite seat of epithelial pro-

liferations, benign, specific, or malignant. The symptoms and treatment of the condition are obvious.

DR. MULHALL, of St. Louis, reported one case definitely decided by the microscope to be a true papillary fibroma.

DR. SHURLEY, of Detroit, called attention to the fact that these tumors well illustrate the laws of evolution in their development. The process of growth is essentially a vegetable one.

DR. JARVIS, of New York, had found that chromic acid, when applied to the base of these growths after removal, always caused a deep eschar and a permanent cure; while, applied to other intra-nasal conditions, such as septal enlargements, hypertrophies, polypi, etc., there is always more or less return.

DR. MACKENZIE, of Baltimore, had had patients with chronic hypertrophic rhinitis who in blowing the nose would expel small bits of flesh. These bits showed a transitional state between a hypertrophic and an atrophic condition. The patients were temporarily relieved, but sclerosis was slowly setting in, and gradually caused considerable atrophy. Hence their last state was worse than their first.

DR. J. SOLIS COHEN, of Philadelphia, also discussed the paper.

A Study of a Case of Nasal Tuberculosis was the title of a paper by DR. E. L. SHURLY, of Detroit. The case was that of a monkey who had a profuse purulent discharge from one nostril, in which tubercle bacilli were found. There was no cough or dyspnœa. It had occasional fever, and desired only fluid diet. On a treatment of chlorine gas inhalations, and the use of sodium chloride water, it rapidly improved, and the discharge and relative number of the bacilli lessened. Cessation of treatment caused a relapse and increased bacilli. After a while the animal was killed, and a post-mortem examination was made. No tubercle tissue was found anywhere. There was chronic submucous hypertrophy in the nose. Thrombi were found in spleen and lungs, while the liver and kidneys showed new connective tissue as in syphilis.

The cause of this suppuration was probably due to some parasite or foreign body. The pus probably came from one of the sinuses of the region. It was surprising that the bacilli, having found an accidental culture medium, should not have invaded the organism at large and set up typical changes. Slides illustrating the nasal condition were exhibited. Dr. Shurly thought that the case threw some doubt on the generally accepted relation of the bacillus to tubercular tissue.

Cyst of the Middle Turbinated Bone.—A paper with this title was read by Dr. CHARLES H. KNIGHT, of New York. This condition was frequent, but little noticed. His patient was a middle-aged woman whose right nostril was occluded by a growth resembling in appearance a myxoma, but it was hard and resistant. There was a deviation of the septum and a left hypertrophic rhinitis. It was removed with cocaine by the cold wire snare, and a good recovery ensued. The symptoms of this condition are caused by the pressure of the expanding cyst, and consist of hemicrania and various neuroses of the fifth pair of cranial nerves. If myxomata coexist there is danger of empyema of the antrum. The inferior bone is rarely affected, only one such case having been reported, also one affecting the superior turbinated. This condition is rare under twenty, and is more common in middle-aged women. A differential diagnosis is necessary for myxoma, osteoma, and mucocele of the ethmoidal cells. Cysts have, of course, a very thin and fragile wall, and are, according to Zwillinger, translucent.

There are two theories regarding their formation. The first regards them as due to a rarefying osteitis. The other, advanced by Greville McDonald, considers them as commencing in a hypertrophic rhinitis. After a while there is an osteophytic projection lengthening the bone, which then begins to curl upon itself, and finally meeting its body, forms a closed cavity lined by mucous membrane. Hence there is a secretion of mucus or pus if disease involves the interior. The interior is lined with ciliated epithelium.

Dr. Knight considered the second theory the more satisfactory, though it was difficult to explain by it some of the conditions sometimes found. The cysts are always broken in removal. Symptomatology was obvious.

DR. WRIGHT gave the history of a case where there was no ciliated epithelial lining. The contents were grumous, due probably to the hardening fluids employed.

DR. W. E. CASSELBERRY, of Chicago, reported a case of myxoma with calcareous degeneration of the outer portion, producing a very thin shell filled with a mucous material. It grew from the middle turbinated body.

Various Forms of Disease of the Ethmoid Cells.—DR. F. H. BOSWORTH, of New York, read a paper with this title. During the past five or six years he had seen 27 cases, which he divided into the following categories: 1. Myxomatous degenerations without purulent discharge, 5 cases. 2. Extra-cellular myxomatous degeneration with purulent discharge from the ethmoid cells, 4 cases. This form might be a later stage of the first. 3. Purulent ethmoiditis with nasal polypi, 13 cases. Of these 7 had also antrum disease. 4. Intra-cellular polypi without purulent discharge, 3 cases. 5. Intra-cellular polypi with purulent discharge. 2 cases. The fifth was a later form of the fourth.

Dr. Bosworth regarded this as a good and practical division of the large number of cases now grouped under the indefinite title of "ethmoid" disease. He could not agree with Woakes's theory of necrosing ethmoiditis. He rather believed just the opposite. The hiatus semilunaris was a common meeting-point for the secretions from the antrum and anterior ethmoidal cells. Nasal polypi were apt to grow here and dam up the secretions, thus causing them to assume a purulent character. By carefully tracing the source of the pus and remembering anatomical relations, the exact seat of disease could be determined. The treatment was to remove the polypus and drain thoroughly all the cavities affected. Sphenoid disease, from its posterior situation, generally discharged its pus into the naso-pharynx, while posterior ethmoidal suppuration discharged above the middle turbinated, at the junction of the middle with the posterior third. A small spoon curette had given the best results in scraping the sites of disease.

DR. JARVIS advocated the removal of the cap of the middle turbinated in multiple myxoma. Small masses of this nature might exist in the cells themselves. We may have a form of acute ethmoiditis independent of nasal polypi. The clinical history of such a case was given. There was retention of secretion, subocular enlargement of the lymphatics, and some evidences of septicæmia. A removal of the turbinated body by drilling relieved all symptoms. Non-myxomatous ethmoiditis is often due to congenital defects or displacements of the nasal septum, causing a lateral impaction preventing free drainage.

DR. WRIGHT narrated a similar case following a quinsy. He thought that acute cases generally recovered without operative interference.

DR. MULHALL, of St. Louis, said that the disease often required desperate measures. The curette had given him much satisfaction.

DR. JARVIS remarked that he had never seen sepsis follow the use of the cold wire.

DR. MACKENZIE also discussed the paper.

The Radical Treatment of Nasal Myxomata was the title of a paper read by DR. W. E. CASSELBERRY, of Chicago. Two-thirds of all these bodies were under the middle turbinated bone. They rarely developed from flat surfaces, but generally from free edges, mucous membrane soddened by profuse secretions furnished a good soil for their growth. The middle turbinated bone lies in a region of free edges, and hence the partiality of the condition for this area. To remove these masses it was

sometimes necessary to take off the anterior inferior end of the turbinated bone. The site of growth should be touched with the cautery.

There is some danger from too radical procedures in this direction. There is danger of cerebral mischief, as several cases of the latter had been reported from intra-nasal operations. The writer used a curved scissors, and sometimes cutting punch forceps.

DR. SAJOUS, of Philadelphia, had used the rongeur forceps with advantage. He took off the tip of the bone and thus obtained room to get at the myxomata higher up. He used a glass-covered electrode with a bent and flattened tip of platinum, and could scrape as well as burn with it.

DR. J. SOLIS COHEN commended the use of witch-hazel solutions, one to four, for intra-nasal use after the removal of polypus. He had found that it prevented their recurrence.

DR. BOSWORTH had no faith in medicinal applications, and condemned the use of the cautery.

DR. ROE used a bow saw with its cutting edge at right angles to the handle, to saw off the tip of the bone.

DR. RICE, of New York, thought there was danger of secondary atrophic rhinitis if we removed too much tissue.

DR. MULHALL favored the use of the cautery at a white heat. So used, it was practically harmless.

Drs. Asch, of New York, and MacKenzie, also spoke on the paper.

AMERICAN CLIMATOLOGICAL ASSOCIATION.

(Continued from p. 360.)

SECOND DAY, WEDNESDAY, SEPTEMBER 23D.

The Sputum in Pulmonary Phthisis. — DR. E. L. SHURLEY, of Detroit, Mich., read the first paper of the day's meeting, entitled as above. The results of the series of studies and scientific experiments embodied in the paper were admitted as throwing no new light upon the first step in the pathogenesis of tuberculosis, but as demonstrating the varying degrees of strength and viability, with resulting intensity of infection from different cultures of bacilli, they afford a basis for the explanation of varying degrees of susceptibility in individuals to the development of tuberculous disease. The method of experimentation observed by the writer, elaborately outlined in detail, were: 1st, Cultivation under different conditions and in different media; 2d, inoculation with control experiments

DRS. TYNDALL, GIHON, and WILLIAMS participated in the discussion which followed, the latter confirming from personal experience the statements as to the varying degrees of viability of different chemical extractions of tuberculous tissue. He believed that the only explanation of variations in the action of different cultures of bacilli was to be found in the viability and violence of action of the bacillus itself.

Surgical Treatment of Acute and Chronic Empyema. —DR. MAURICE RICHARDSON, of Boston, read a paper upon this subject. Drainage, he considered of equal importance with asepsis or antisepsis. The most desirable object in such cases was to obtain lung expansion, and this can be best accomplished by drainage. Empyema is essentially a surgical affection, though aspiration had occasionally proven efficacious. It was often, however, dangerous, in that it led to delay in adopting surgical measures which should be resorted to early, in order to prevent adhesions and interference in consequence with expansion. The author's method of preparation for operation to secure drainage involved the most thorough aseptic and antiseptic precautions. The field selected should be scrubbed twenty-four hours previously with soap and water and a hot-water poultice of aseptic cotton batting should be applied for twelve hours, followed by a similar poultice rendered aseptic with corrosive sublimate, which should remain *in situ* until immediately preceding the operation. He did not think general anæsthesia advisable, as it interfered with the voluntary coughing of the patient during evacuation, which was important in assisting in the expulsion of pus and in expanding the lung. The point of incision was a matter of election. He usually selected the fifth or sixth interspace in the axillary line. In cases which were chronic, the cavity being closed by collapsing walls, drainage could be best accomplished by inserting the tube high up. It is good policy to consider all cases as chronic. No advantage resulted from cutting through the latissimus dorsi and several objections could be urged. Toward the front of the axillary line the proximity of the heart was objectionable. He prefered to all methods that of a free incision two or three inches in length. Drainage-tubes should be at least three-eighths of an inch in diameter, two or more in number, fastened with a shield and supplied or not with a rubber-tissue valve according to the condition present. Valves were of advantage to create vacuum pressure where ordinary respiration fails to produce proper lung expansion. Rubber is the best material for drainage-tubes. The tube should remain in position until forced out by the filling out of the thoracic cavity, rendering it impossible to replace them. To remove clots, etc., at time of operation pure boiled water is best. Irrigation he considered unnecessary unless there was an offensive odor to the discharge. If odor existed, he had found a solution of styron, 1 to 200 beneficial. The ordinary antiseptics were dangerous, as the pleural membrane absorbed readily. He had seen systemic carbolic-acid poisoning, not only from the use of irrigation with carbolic solution, but from the application of carbolized gauze over the incision wound.

Hemorrhage could be often arrested by the pressure of the drainage-tube upon the margin of incision. The sound of ingress and egress of air immediately after operation afforded an indication of a probable favorable result. Cases of long standing and tuberculosis cases were unfavorable in prognosis. In chronic empyema resection of the ribs which was indicated was of value not in proportion to the extent of rib removed, but to the number re sected. Six or eight ribs could be resected in certain cases with proportionate advantage. The contraction of the chest-wall thereby accomplished was more satisfactory than when a smaller number were resected. The length of rib removed should be equal to the depth of the cavity. He had not tried the suggestion emanating from the Harvard school of anatomy, to force together the ends of the resected ribs and wire them. The immediate results of the operation of incision and drainage, if properly done, were always gratifying if not curative. He had lost two cases in fifteen operations, death occurring from recurrence and tuberculosis.

DR. LOOMIS indorsed the view that surgical incision was *the* rational and only satisfactory treatment in empyema. In acute empyema a cure was not difficult, provided the opening was sufficient. If the case was chronic he considered the prognosis as varying according to the amount of plastic or fibrous matter found in the cavity as a result of the pus-forming process.

Lymphotism.—DR. F. H. BOSWORTH, of New York, in a paper with this title described lymphotism as a condition of disease occurring in early life characterized by a glandular involvement which might exist widely, but which usually manifested itself in the cervical region, the upper air-tract, and the fauces in adenoid enlargements, tonsillar hypertrophies, etc. There was, as a rule, an associated anæmia, more or less profound headaches, interference with normal respiration, and consequent imperfect assimilation from defective oxidation. The prognosis he considered favorable provided the condition is recognized as one requiring attention and proper treatment inaugurated. Constitutional treatment is most effective, and the iodide of iron, in the form of a syrup or in Blancard's pills, the remedy par excellence. The

dose should be at least two grains of the iodide of iron thrice daily.

Dr. Jacobi, of New York, did not think lymphotism existed as an entity in disease, but that it was a secondary process originating in a local irritation. Cervical adenitis, from stomatitis, eczema, scrofulous glands, so called, of the omentum from hyperæmia due to diarrhœa, and other similar conditions, were cited as examples of local irritation acting as a cause of the secondary condition. The primary irritation should be relieved and the lymphotism prevented.

Dr. Darlington, of Arizona, related an experience with fifty cases of apparent epidemic adenitis of the cervical glands of undetermined etiology.

Histological Changes which Take Place in the Lungs in Cured Phthisis Pulmonalis and the Influence of Diathesis in the Development of Such Changes.—In a paper entitled as above, Dr. A. L. Loomis, of New York, decribed a series of pathological observations made upon the records of 524 autopsies done at Bellevue Hospital, eight per cent. of which were found to represent instances cured of tuberculous disease though the patients died of non-tuberculous affections. The records of this table of cases were prepared by Dr. Henry P. Loomis. As regards the lesions which may be regarded as evidence of cured phthisis, patches of induration at the apex of the lungs, for a long time considered characteristic, have been demonstrated as the result, at times, of other causes of irritation than tubercle. Masses of fibrous tissue in the lungs, until after the discovery of the tubercle bacillus, were not positively demonstrable as of tubercular origin. Of the 44 cases observed, forming the basis of his paper, in 38 the gross appearance of the affected lung showed firm adhesion to the costal pleura with puckering and depression of the adherent surface; sections showed varying numbers of fibrous nodules scattered through the lung apex, situated in most instances just beneath the adherent surface, and continuous with the thickened pleura. A few were in the central portion of the upper lobe, connected with the pleural surface by dense bands of fibrous tissue. Soft cheesy or calcareous masses were usually found in the central portions of these nodules, and in six small closed cavities occupied the centre of the larger nodules. A linear cicatrix was found in a few nodules, marking the site of a healed cavity. Lamellæ of less dense fibrous tissue, often traversed by contracted, obliterated, and dilated bronchi and impervious blood vessels, were found immediately around many of these nodules. An emphysematous condition was observed in the surrounding lung-tissue, which appeared normal. Two instances showed the entire upper lobe of the lung transformed into a homogeneous fibrous mass. More or less deep pigmentation was noted in the fibrous tissue of the nodules. On microscopical examination of these nodules, more or less completely organized fibrous tissue was observed as the prominent histological change.

In many, at the edge of the tissues destroyed by the tubercular process, new connective tissue could be seen just developing, and the fibroid process evidently originated in one of these ways: 1, By round-cell infiltration of the interlobular connective tissue; 2, by round-cell infiltrations of the alveolar walls; 3, by round-cell infiltrations around the vessels and bronchi which became contracted and obliterated by the fully developed fibroid growth. In some sections pleuritic fibrosis seemed to be the first change, and in all lines of fibroid tissue could be traced from the nodules to the pleura. One condition was so constantly present as to lead to the conclusion that it was essential, a condition of intense hyperæmia always surrounding the tubercular areas where recent fibroid processes were active. The developed fibroid masses were also found studded with new capillary vessels. The different elements composing tubercle could not be determined. Tubercle bacilli could only be found in one or two specimens. Inoculation experiments with the contents of the nodules upon rabbits gave uncertain results, producing tuberculosis in certain cases and no reaction in others. General tuberculosis followed in no case. The conclusion from observations made was that the only method of arresting tubercular processes in the lungs was by the development of fibroid processes in and around the tubercular areas. The occurrence of this reparative process in an individual he believed to be dependent upon diathetic tendencies. The two diathetic conditions involved affecting tubercular process favorably or adversely were the fibroid and the strumous. Necrotic changes occurring in parenchymatous tissue can only be repaired by fibroid development, which must be pathological in intensity in order to be effective if the cause of the necrosis be especially powerful. Several clinical cases were cited illustrative of the antagonistic action of diathesis, especially marked in arthritic individuals who possessed a relative immunity from all forms of tuberculosis. Tuberculosis of the pulmonary type occurring in patients with a parental history of general fibrosis had a tendency to a chronic course and spontaneous cure. Of seventy cases of cured cases of pulmonary phthisis personally observed by the writer fifty-two presented marked evidences of general fibrosis. The prognosis in tuberculosis is largely dependent upon the diathesis and family history of the patient, a factor in prognosis which has been unwisely ignored since the discovery of the tubercle bacillus. A better explanation of the varying results of tubercular disease in different individuals than that of intensity of bacilli infection is to be found in the presence or absence of diathetic antagonism. Koch's tuberculin, if it has any power in arresting tubercular processes, does so by exciting around the diseased areas inflammatory processes which favor fibroid development.

In the discussion following, Dr. Jacobi said that he believed the cure of local tubercular disease to be dependent upon the development of surrounding fibroid tissue, and that this development could be assisted, he thought, by the use of certain agents having the property of setting up local irritation, if given in small doses. He had used for twenty years, as a matter of routine, in conjunction with other measures, arsenic, in the treatment of pulmonary tuberculosis, in small doses. He did not consider it a specific, but believed it of decided value. Phosphorus, given by Wagner experimentally to hasten the cure of fractured limbs in rabbits, he believed to be rather unsafe in phthisis, in that the resulting irritation was excessive.

Dr. Curtin thought that the results claimed for the treatment of pulmonary tuberculosis by injections of iodine into the pulmonary cavity, suggested some years ago by Dr. Pepper, could be explained by the development of fibroid tissue resulting from the injections. He had recently noticed, in an autopsy upon one of Dr. Pepper's patients, so treated some years ago, the same pathological conditions mentioned by Dr. Loomis.

Dr. Beverley Robinson had followed Dr. Pepper's suggestion, and had used iodine by injection into the pulmonary cavity, with modification and amelioration of symptoms as a result. He believed creosote, used as he had recommended it some years ago, to be of more benefit than any other single agent mentioned in the discussion.

Dr. Tyndall suggested that the terms destructive and constructive metabolism be used for scrofula and fibrosis.

Dr. Fremont-Smith mentioned the fact that Lannelongue explains the *rationale* of cures resulting from his method of injecting a solution of chloride of zinc in tubercular disease of joints as being the result of the development of fibroid tissue.

Dr. Jacobi saw some of Lannelongue's patients treated, and others shown as examples of curative results obtained. The strength of the zinc solution used was fifteen per cent. Proof of cure, in an absence of pain and swelling, existed in some of the cases shown as cured, but in several swelling was still present, and the patients—children from three to eight years of age—cried out with the

pain when touched. These cases had been under treatment from two to six weeks.

DR. WILLIAMS considered the teachings of Dr. Churchill in line with the facts as elaborated in the paper read. Calcification while not identical with fibrosis is related to the arthritic and gouty diatheses. Hypophosphites were promotive, he believed, of irritative processes resulting in fibroid-tissue development.

DR. LOOMIS, in closing the discussion, expressed the opinion that the sole benefit derived by tuberculous patients from creosote was through its action in promoting assimilation by assisting digestion.

Analysis of Recorded Cases of Phthisis Pulmonalis.—DR. S. A. FISKE, of Denver, Col., read a paper with the above title, tabulating results in a large number of cases, illustrative of the modifying effects of suppurative and symptomatic treatment assisted by the climatic effects of a residence in Colorado.

DR. INGALLS asked for an explanation of the remarkable frequency of hemorrhage as a cause of death in the cases mentioned.

DR. FISKE stated in explanation that hemorrhage was cited as a cause of death in some cases in which it was only indirectly responsible; after a hemorrhage, the patient, who had previously improved, never rallying and becoming progressively worse. In only one case was death due directly to absolute loss of blood.

Attempts to Discover Specifics for Phthisis.—This was the subject of a paper by DR. H. F. WILLIAMS, of Brooklyn. The present status of intelligent medical investigation in the field of tuberculosis is distinctly not in the line of attempts to discover a specific for phthisis or other tubercular disease, but toward the accumulation of agents and meas ures by which the disease processes may be modified and relief obtained through the upbuilding of nutrition and constructive metamorphosis generally. His observations had led him to believe that the activity of bacilli varied within wide limits, depending upon the removal of the bacilli in any given case from the original source of development. Bacilli diminished in the intensity and violence of their action by a process of self-attenuation. As to the various methods of antagonizing tuberculosis, vaunted at different epochs as having specific value, his experience led him to place great confidence in the modifying influence for good from the use of the pneumatic cabinet. By its use the lungs could be filled with aseptic air, and thus the fermentative decomposition and activity of lower types of micro-organisms could be controlled, and the activity of the tubercle bacilli in that way lessened.

DR. CARL VON RUCK, of Asheville, N.C., in the discussion which followed, stated that he had used, with much benefit in some cases, the pneumatic cabinet. It was not appropriate to all cases, and in some there were decided contra-indications to its use. Every case of phthisis required discrimination in the agent used as a remedy. The effect of the pneumatic tube was largely upon the heart and circulation, promoting a general improvement, giving better aëration to the lungs, and making more blood. It should only be used as an adjunct to other methods.

The Value of Koch's Remedy Employed as an Alterative; Reactive Fever Prevented, was the title of a paper by DR. FRANK FREMONT SMITH, of St. Augustine. Personal observation in Berlin and experience with his own cases in Alicia Hospital, St. Augustine, lead to the following conclusions:

1. The dose of tuberculin is a widely varying quantity, to be determined, with its rate of increase for each case, only by direct experiment.

2. The only therapeutic dose is such a quantity as arouses no reactive temperature, every reactive fever being the expression of an overdose, *i.e.*, a poisonous dose.

3. Tuberculin, when successful by fever reactive method, is so despite, not by virtue of, reactions.

4. Tuberculin by non-reactive method acts as a powerful upbuilding alterative to the tuberculous subject.

5. Cases in all stages of tuberculosis may be treated by non-reactive method without danger. To produce every second day the ultra-physiological action of tuberculin, as exhibited in fever reactions, disturbs the general equilibrium and disarranges nervous, digestive, and secretory functions, upon whose very quietude and uninterrupted activity substantial improvement is of necessity based. Experiments begun January 27, 1891, with non-reactive method, give in twelve cases uniform gains in the six incipient cases: 1st case, gain in thirteen weeks, 17 pounds; 2d case, gain in ten weeks, 20 pounds; 3d case, gain in eighteen weeks, 12 pounds; 4th case, gain in five weeks, 10¼ pounds; 5th case, gain in twelve weeks, 3½ pounds; 6th case, gain in five weeks, 3 pounds.

ASSOCIATION OF AMERICAN PHYSICIANS.

(Continued from p. 362.)

SECOND DAY, WEDNESDAY, SEPTEMBER 23D.

The Remote Results of the Removal of the Ovaries and Tubes.—DR. WILLIAM T. LUSK, of New York, read a paper on this subject. The ovaries have been removed for the relief of local pain or for the amelioration of certain nervous symptoms. Oöphorectomy has been done too much of late. It is important to relieve the woman, but by pessaries, rest, and prolonged treatment much of the discomfort may be removed. Very often the removal of ovaries brings about a cure which might have occurred with proper non-operative treatment. The improvement is, of course, attributed to the operation. The removal of the ovaries is not without danger. It may give rise to a large number of symptoms. A woman is castrated and becomes unsexed, the menses cease, the uterus becomes small, and the vagina atrophied. Often the sexual appetite is impaired, although in many cases the woman had no sexual desire before the operation. At rare times it is increased, but most often it is diminished, and even if it is increased this increase does not last long. In a large number he observed no change after the operation at first, but afterward they all lost desire. The woman who is unsexed and has no ovaries cannot marry without an explanation, and this may either prevent the marriage, or if the couple are Malthusians they can marry anyhow. It may be said that the woman is sterile as soon as those organs are diseased, and the mere operation does no harm. He did not include such cases. A woman came to him fully prepared for the operation; he objected, she insisted; he put her on treatment. She got better, had children, and is now well. Most cases of tubal swelling yield to treatment. Mr. Tait has started a collective investigation committee to see when an operation is necessary. He reported sixty-five cases where the uterine appendages were removed. The removal of the ovaries for hysteria he considers as malpractice. Dr. C. C. Lee reports that loss of appetite in his experience followed this operation. The loss of her ovaries does injure the woman. He tries everything before he begins to think of operation. The successful removal of an organ is not a triumph of art, but a confession of defeat. Many cases resulted in mental derangement. This may have occurred without the operation, but it is not likely. In some cases this is incurable, in some cases curable.

DR. WHARTON SINKLER said that it makes a difference whether the operation has been done for diseased ovaries or whether the ovaries have been removed for some disordered condition of the nervous system, such as hysteria, epilepsy, or insanity. The consideration of the after-effects of the operation is very important and everyone recognizes this importance. Most operators know little about the patients after the operation. They go back to their family physicians or to the neurologist. Was the operation for the relief of those organs? The operation is the same whether the organs are diseased or healthy, but the age of the patient makes a difference. Before puberty the changes in the patient's characteristics are

great, but after this they are not so great, they are much like the changes occurring at the climacteric period. We have the sign of change of life, the flushing and usual disturbance of the heart's action, rapid pulse, atrophy of the internal genitalia. But there is no masculine change as some have asserted. She becomes fleshy, but not often stouter than before her illness—that is, with some exceptions. She is thus unsexed, and more than this, she has a series of various nervous troubles. This is due to cerebral hyperæmia. There is mental depression or mild melancholy; in others there is a mild insanity. T. G. Thomas reports six cases of melancholia after these operations and many others are witnesses to the fact of mental disturbances.

Insanity follows a large number of hysterectomics; not ten per cent., as some have said, but a large number. The general opinion seems to be that the sexual desire is not affected by the operation of castration. Dr. Weir Mitchell reports three cases of cure from ovarian trouble by rest, marriage, etc., cases which had been examined by eminent gynecologists, and pronounced as necessary for operation to be cured. These got entirely well without an operation. Not weeks, but months of rest should be tried. The ordinary insanity is not affected by this operation, but monthly insanity, coming on at the menstrual period, has been cured by operation. Pelvic pain has been cured by operation, but such pain has returned in the stumps of the ovaries months afterward.

Dr. Putnam, of Boston, thought it was not right to treat neurasthenia by operation. Hypnotism has been tried with success, and has done as much good as operation. He does not believe that neurasthenia is a definite disease, but is due to many causes.

Dr. S. Weir Mitchell, of Philadelphia, had seen many cases of removed ovaries which should have never been touched. The gynecologists were the ones who were to blame and who did the most harm. We should be careful and have some charity. Every new medicine and every operation produces some excesses. The bromides did that when they were first used. These cases have not gone on long enough to give us remote histories. The statistics are not worth much. Most men made the mistake of operating without deliberation and conservatism. A young man should never undertake such an operation without good advice. In a long life and experience he had only seen eighteen cases in which he had considered operation necessary. There may have been others which passed from his hands to an operator, but he had only found it necessary to operate on these eighteen. Of these there was no death. Every case he sent to a surgeon was carefully prepared for weeks and months beforehand. The danger is now of operating too quickly after seeing the case. A long course of treatment may render an operation unnecessary by curing the patient or better fitting it for the operation if it is necessary. The practical abolition of the death penalty in surgery has produced too much liberty, and made men reckless and indifferent, or too ready to operate without sufficient consideration. He cited four cases, of which three had been doomed by eminent gynecologists to lose their ovaries and they all recovered and bore children.

Dr. W. T. Gairdner, of Glasgow, said that they do not operate so frequently in Glasgow. He was much pleased with Dr. Lusk's paper and mentioned a typical case that got well without operation.

Dr. C. C. Lee, of New York, was not so opposed to operation as the author. Had collected statistics to show that his operations have been of permanent good.

Dr. W. T. Wathen, of Louisville, had operated much in time past, but was not doing so much now. He was much pleased with Dr. Lusk's paper and agreed with him on many points.

Dr. W. T. Lusk, in conclusion, said that all seemed to have gone over the same ground. His desire was to show the necessity of reducing the number of operations.

Nerve-stretching in Inveterate Cases of Trigeminal Neuralgia.—Dr. James Stewart, of Montreal, Can., gave a report of a series of cases of severe neuralgia in different parts of the body cured by nerve-stretching. It relieved in a majority of cases but was not permanent in five per cent. after cure and should be repeated. Several branches of the same nerve should be stretched, but not all at once, but after the lapse of several days.

Diseases of the Kidney, Popularly called "Bright's Disease."—Dr. Francis Delafield, of New York, read a paper with this title. He said that the term "Bright's Disease" is no longer of use, except as a popular expression; there is no such disease. At the present time a working classification of renal diseases is made most easily according to the character of the morbid process. Such a classification would be as follows: Acute congestion of the kidney; chronic congestion of the kidney; acute degeneration of the kidney; chronic degeneration of the kidney; acute exudative nephritis; acute productive, or diffuse, nephritis; chronic productive, or diffuse, nephritis, with exudation; chronic productive, or diffuse, nephritis, without exudation.

Various Tests for Albumin.—Dr. A. H. Smith, of New York, presented a communication on this subject. He spoke of the various kinds of albumin in the urine, the difficulty of separating them, and the delicate tests for them. He showed a series of tests made with Merck's chemically pure serum-albumin dissolved in pure water, and believed that all urine contained albumin. He used heat, nitric acid, ether, and chloroform.

Dr. W. T. Councilman, of Baltimore, agreed in part with Dr. Delafield. He had noticed that there was a great similarity of lesions in kidney disease. He made two classes, focal and diffuse lesions. There must be some alteration of the blood in character, etc., for it to get into the urine. The focal lesions are those which reach the kidney in a soluble form or bacteriological lesion. They are brought to the kidney and deposited in it. Another class is that in which the lesions are diffuse, being in the blood, and are scattered over the kidney, as in the lesions of the infectious diseases, the lesions which can come in consequence of a chemical substance used in nature which we do not understand. These can also enter the kidney by the ureters, producing certain changes in it.

Dr. V. Vaughan, of Ann Arbor, Mich., thought that Dr. Delafield's paper showed a step in the right direction. Dr. Smith should remember that Merck's chemically pure serum-albumin was not chemically pure at all, but was simply made from coagulated blood, and contained a large amount of the substances which vitiated his tests. He did not believe in making such delicate tests. It was better to miss the presence of albumin occasionally than to turn down a healthy man in a life insurance examination because we find a coagulable substance by one of these delicate tests. If the peptones are in the blood they must be got rid of, and hence when found in the urine it is a natural process of nature in getting rid of them.

Dr. J. P. Crozier Griffiths, of Philadelphia, said that in the preparation passed around the chloroform had not precipitated the substance, but had formed an emulsion with it, and he could get the same emulsion in a less marked degree with water alone.

Dr. W. T. Gairdner, of Glasgow, spoke of the importance of a review of our nomenclature in medicine. He wanted no disease named for him, spoke of the various forms of kidney disease, and said that heat and nitric acid were the best tests for albumin.

Dr. Vaughan, of Michigan, said heat, nitric acid, and an acetic acid with the ferrocyanide of potassium, were the best tests for albumin in the urine.

Dr. A. H. Smith said, in conclusion, that his work was only to bring the most delicate tests before the Society. He already knew what Dr. Vaughan had told him.

AMERICAN ASSOCIATION OF ANDROLOGY AND SYPHILOLOGY.

(Continued from p. 364.)

SECOND DAY, WEDNESDAY, SEPTEMBER 23D.

A Case of Excision of Stricture and Urethroplasty for Radical Cure.—DR. EDWARD L. KEYES, of New York, opened to-day's session by reading a paper with this title. He stated that the radical cure of stricture in the deep urethra is still an open question. The question has been measurably solved for the anterior urethra, chiefly through the energy and zeal of Professor Otis, and his persistent advocacy of extensive dilating urethrotomy. The same solution has not yet been proved to hold in the case of organic strictures of the deep urethra, nor has any other single rule been advanced to cover all cases. The author classified deep organic strictures into three groups, the soft, the cicatricial, and the inodular. The soft stricture is not uncommon, and is capable of immediate dilatation up to the full urethral calibre; it can be recognized by a peculiar feel in passing a blunt instrument into the bladder. Dr. Keyes stated that this form of stricture can be permanently cured by continued dilatation. He then gave the history of a case of radical cure of deep urethral stricture of great extent and long duration, complicated by perineal fistula, and by some tissue, apparently inodular. The stricture was first laid open upon a whalebone filiform guide, and then the dense, fibrous tissue composing it was cut out; the fistulous tracts were also dissected out and a plastic operation performed, taking a large piece off the inner layer of the prepuce for that purpose. This piece of tissue was thoroughly disinfected and sutured into place in the roof of the gap left by the excised stricture. The perineal wound healed very rapidly, and recovery was uninterrupted.

MR REGINALD HARRISON, of London, stated that while he had but a very limited experience in the treatment of strictures by the process of excision, and practically none so far as it relates to excision with grafting, he thought that Dr. Keyes' paper presented a method of treatment which is likely to be of considerable value in deep urethral strictures. Mr. Harrison stated that while in Paris he had seen M. Guion treat two or three cases of traumatic stricture by excision. Instead of doing a plastic operation, however, M. Guion had closed the wound by three layers of sutures.

The discussion of this paper was continued by Sir William MacCormac, of London, Dr. John P. Bryson, of St. Louis, and Dr. L. Bolton Bangs, of New York.

A Contribution to the Surgical Treatment of Ruptures of the Bladder, by DR. ARTHUR P. CABOT, of Boston. In his paper Dr. Cabot considered the conditions of extra-peritoneal rupture of the bladder. The usual symptoms of rupture of the bladder, the author stated, were tolerably distinct, and the lesion can be demonstrated almost beyond doubt by the physical test of the injection of fluid or air. This test might fail when the rent is very small, or when there is a valvular closure of the bladder wound. Some writers, the reader stated, advise that cases of extra-peritoneal rupture should be treated by simple drainage of the bladder, either through a perineal wound or by a retained catheter. This plan Dr. Cabot considered insufficient drainage for the urine which has already escaped into the tissues, or for the pus and masses of sloughing tissue which are certain to follow from the contact of urine. It is important that the operator should know where the rent is, and in what direction the urine is forcing its way through the loose peri vesical connective tissue. When this knowledge is obtained he can make an opening into the extravasation from the nearest available point on the surface, and establish the most direct drainage possible. An incision into the prevesical space, as suggested by Mr. Rivington, is applicable in cases in which the rupture is in the front wall of the bladder, just above the prostate, and in which the effusion is small or circumscribed. Another plan proposed in doubtful cases, the author stated, is to make a median cystotomy, and with the finger in the bladder to search for the rents; but this method has in some instances proved unsuccessful. The best method of obtaining a knowledge of the condition of things in doubtful cases of extra-peritoneal rupture, Dr. Cabot stated, is by opening the abdominal cavity and so getting an opportunity to thoroughly inspect and palpate the parts about the bladder. The reader then gave the history of a case where an extra-peritoneal rupture of the bladder occurred during the operation of litholapaxy, which was at once discovered and treated by opening the abdomen; and he suggested that in all cases where a rupture is made out, prompt action should be taken and a laparotomy performed, excepting where it is evident that urine is extravasated in the prevesical space, where a supra-pubic incision is sufficient; or cases where the shock is so severe that the patient cannot bear more than the median operation.

SIR WILLIAM MACCORMAC, of London, stated that Dr. Cabot, in his excellent paper, had covered a great amount of ground and given many valuable hints. The diagnosis of extra-peritoneal rupture, was in many cases much more difficult than that of intra-peritoneal. The speaker thought that one of the methods of diagnosis mentioned by Dr. Cabot, namely the injection of fluid, might add to the difficulty rather than diminish it, and that he considered the injection of air preferable. Another point of diagnosis which is mentioned in all the text-books on this subject, namely, the extreme shock, he has found entirely absent in two cases which came under his observation.

DR. L. BOLTON BANGS, of New York, suggested that perhaps the cystoscope could be used to advantage in locating rents in the bladder.

DR. KEYES said that, on account of the bleeding, the cystoscope is of no use in these cases.

DR. CABOT called attention to the fact that the ruptured bladder would be collapsed, and so not suitable for the cystoscope.

On the Use of Salicylic Acid in the Treatment of Certain Forms of Cystitis, by DR. JOHN P. BRYSON, of St. Louis. He stated that about three years ago a student by mistake mixed one ounce of a two per cent. solution of salicylic acid in glycerine with five ounces of water for the purpose of washing out the bladder of a patient with chronic exudative cystitis, and who had previously had his bladder irrigated with the standard borax solution in glycerine and water without material benefit. The returning fluid was milky in appearance, and a second ounce was thrown in before the mistake was discovered. The patient returned the next afternoon to report that he was much better, and to ask that a similar injection be given, which was done. From this time a salicylic acid solution has been in common use at the genito-urinary clinic of the St. Louis College, in similar cases, with marked benefit. It is particularly useful in the more chronic cases where the surface of the bladder is covered with a thick or a tenacious protection, made up of mucus and necrotic epithelia. The salicylic acid has the power of dissolving or loosening the epithelial cells, and the bladder is then in a proper condition for the application of other remedies. The use of the salicylic acid solution is not of equal service in all cases of cystitis, and is distinctly contra-indicated in some. In acute cystitis, with thin exudation, it is not necessary. Where there is ulceration with a disposition to bleed it is harmful. It is also harmful in tubercular disease, and in old prostatic cases, with saculated bladders.

DR. EDWARD R. PALMER, of Louisville, Ky., stated that Dr. Bryson had related this incident to him a year ago, and that since then he has had considerable favorable experience with the use of salicylic acid in cystitis. He wished to say, however, that in using Piersch's solution—which is a combination of salicylic and boracic acids—the patients often complained of severe pain.

Dr. L. Bolton Bangs, of New York, stated that he was very grateful to Dr. Bryson for mentioning this method of cleaning out the bladder. His experience with the use of Piersch's solution was in accord with that of Dr. Palmer. He supposed the strength of the solution is somewhat a matter of judgment.

Dr. James P. Tuttle, of New York, stated that he has used Piersch's solution for the past three or four years for irrigating the bladder, and he desired to thank Dr. Bryson for informing him why he gets such good results in such cases.

Undetected Stone, by Dr. William H. Hingston, of Montreal. Dr. Hingston stated that the difficulty sometimes experienced in locating a stone in the bladder is familiar to all surgeons. The most careful exploration may fail to reveal it. In examination for stone, the author stated that the bladder should be partially filled, and the patient can be made to empty it during the exploration, with the hope that the calculus, if there is any, will strike against the instrument. The slight difference in specific gravity between the calculus and the turbid fluid allows the stone to float about, and in that condition the sound or searcher does not elicit the characteristic "click" sought for.

Dr. Edward L. Keyes, of New York, stated that Dr. Hingston, in his paper, had not alluded to the washing-bottle and the small tube for the purpose of detecting stone. Another method is the education of the finger to appreciate the gritty feeling, which he considers more important than the "click."

Dr. L. Bolton Bangs said that he was in some cases enabled to detect stone in the bladder by means of the cystoscope.

Note upon a Possible Service to be Expected from Diuretin in Genito-urinary Surgery, by Dr. Edward L. Keyes, of New York. In his paper, Dr. Keyes stated that outside of the usual complications liable to attend any cutting operation, the surgeon who deals with the genito-urinary tract has to contemplate, and, if possible, guard against that other mysterious concomitant of operations upon the urethra and bladder known under various names and often called urinary fever. The theories about it are numerous. It exists and is feared by the surgeon. To prevent urinary fever, the author stated, various things have been done, and among the drugs used for this purpose are aconite, pilocarpine, and quinine. These drugs, Dr. Keyes considers of very little value to prevent the complications feared. Local urethral antisepsis with boric acid, benzoate, etc., he also considers to be very much overrated. Dr. Keyes then gave the history of a case which came under his observation last June. An operation was performed to take a large stone from the bladder of an old gentleman, and at the same time remove an outstanding third lobe. The outlook of the case after the operation was desperate, and before the patient recovered from the anæsthetic he was given ten grains of diuretin, and this dose was frequently repeated. This patient recovered, and since that time Dr. Keyes has used diuretin in every case of urethral or bladder operation falling under his hands. He gives sixty grains of salol a day for forty-eight hours before operating, and on the day of operation begins giving ten grains of diuretin every four hours, continuing it for forty eight hours. The author stated that while the use of diuretin in these cases must still be considered in the light of an experiment, he desired to say that since employing it he has never seen a chill or suppression of urine following operation. Diuretin, Dr. Keyes explained, is a combination of theobromine and salicylate of soda; it is a free diuretic and does not irritate the stomach nor depress a weak heart.

Encysted Stone, Complicated with Growths of the Bladder.—This contribution, by Dr. C. H. Mastin, of Mobile, was read by the Secretary. The paper gave the history of a case in which a growth was spontaneously expelled from the bladder eleven days after operation. Specimens were shown.

AMERICAN ORTHOPEDIC ASSOCIATION.

(Continued from p. 365.)

Second Day, Wednesday, September 23d.

Atrophy in Joint Disease.—Dr. E. G. Brockett, of Boston, said that the atrophy in joint disease is usually regarded as the result of nerve influence, *i.e.*, as reflex, the theory being practically that of Vulpian. The speaker claimed that this is not sufficient to explain the condition. If from this cause, the degree of atrophy should bear a relation to the severity of the disease or to its duration, and those structures in the neighborhood of the joint should be most affected. But it varies within wide limits, not bearing a constant relation to the severity, to the duration, or to the amount of pain. It is, however, most strongly influenced by the amount of use, as seen by its appearance in mild cases treated with immobilization, in the uniform distribution over the entire limb, and in its relation to the amount of use given the limb. The continuance of its influence is seen in the lack of development, involving uniformly all parts of the limb, and the proportion of this to the amount of freedom permitted. The facts are that the degree of the atrophy, which always occurs, does not bear a constant relation to the disease, but is chiefly determined by the amount of use permitted the limb; that this same atrophy occurs under other conditions which impair the use of the limb, but not occasioned by disease; that this atrophy is nearly, if not quite, evenly distributed over the entire limb; that during the period of growth the loss of development extends to the whole leg, and bears a relation to the degree of its confinement.

Syphilitic Spondylitis in Children.—Dr. John Ridlon, of New York, said that the symptoms of inflammation of the spinal bones appeared to come on more rapidly, and the suffering and disability were often more intense, than in tubercular spondylitis. When located in the dorsal region, the kyphos usually developed rapidly, and presented a comparatively sharp angle; in the lumbar region lordosis was marked, and psoas contraction, and not infrequently abscess, appeared before any angular deformity. Spondylitis, when associated with chronic disease in some distant joint, or with disease in some other part of the spine separated by a healthy area, and when found in connection with any of the well-recognized lesions of hereditary or of tertiary syphilis, should be given the benefit of the doubt, and be treated with large doses of mercury and iodide of potash

Pott's Disease and Pregnancy.—Dr. T. Halsted Myers, of New York, after considering the malformations of the pelvis and abdominal cavities dependent upon Pott's disease, said that inasmuch as the indication for treatment of Pott's disease was the removal of the weight of the trunk from the bodies of the diseased vertebræ, the mechanical effect of a weight placed anteriorly would surely tend to a most disastrous crushing together of these vertebræ already softened by disease and totally unable to sustain even the ordinary weight of the body. The probability of abscess formation, therefore, by the weight alone of the gravid uterus is necessarily increased. The danger of rupture of already existing abscess or precipitating pressure paralysis is aggravated. During gestation a hyperæmic condition of the cord and its membranes and of the pelvis is thought or known to exist, and the effect of this on disease of the vertebræ must be pernicious.

Of thirty-one married women observed, ten are known to have died from causes directly connected with the disease; of sixty-two unmarried women over sixteen years of age, but two are known to have died.

My cases show very plainly that in cured cases no injury has been done, and it is exceedingly rare, if it ever occurs, that the tubercular process is rekindled by the traumatism of labor. On the other hand, the cases in which pregnancy complicated active disease of the spine give us no uncertain warning, and in view of them I

should advise the termination of pregnancy at the earliest possible date.

Paraplegia in Pott's Disease.—Dr. E. G. Brackett, of Boston, considered the expectant treatment of this form of paralysis, gave the histories of four cases treated with extension from head and foot fixation, illustrating the claim that this treatment often introduces an improvement even in old cases. The following conclusions are made: In this paralysis recovery may be looked for even after its persistence for a year and a half. Treatment by fixation and extension is often attended by decided improvement, and should be given a thorough trial before resorting to radical means. The improvement is usually early, but may not appear until after a few months. Most careful attention to detail is necessary to secure a well-adapted support, and even a continuous attempt at extension. Treatment should be persisted in until the use of the limbs has become well established.

Pressure-Myelitis in Pott's Disease.—Dr. A. Hoffa, of Würzburg, Germany, said that recent microscopic researches have shown that there is no true inflammation of the spinal cord. (Microscopic preparations were exhibited to illustrate this.) When the tubercular growth in the body of a vertebra perforated the posterior surface and destroyed the periosteum of the surface, the tubercular inflammation begins to spread in the epidural space, and the tubercular growth advances in the loose and vascular epidural tissue. In this way the dura mater is pressed upon the cord, partly by the tubercular granulations and partly by the tubercular abscess. Now reaction takes place in the dura, but a specific inflammation of this membrane does not yet occur. The process still remains a peri-pachymeningitis. It is only after the process has lasted for some time, that the peri-pachymeningitis becomes a pachymeningitis; but even then the process is limited for a long time to the outer layers only of the dura mater. If the patient lives long enough the process finally passes through the dura, and then occurs the characteristics of a typical tubercular inflammation of the cord. Thus this specific tubercular myelitis never sets in until near the end of the disease to which the patient succumbs. The treatment should be by early and absolute rest to the affected part as the only thing to be depended upon to check the progress of the inflammation. In a few cases operation may be of service. In either case it is the aim of the treatment to cut short the progress of the tubercular proliferation before the cord itself has been invaded.

Abscesses in Pott's Disease.—Dr. Herbert L. Burrell, of Boston, sent a paper from which the following conclusions may be drawn: Efficient mechanical support of the spine is the prime factor in the treatment of caries of the spine associated with abscess. Under an expectant plan of treatment some abscesses will disappear. The indication for operative interference is a steady or rapid decline in the patient's general condition. The operation should consist of thorough evacuation of the abscess, and the establishment of drainage from as near the seat of the disease as practicable.

Treatment of Abscess of Pott's Disease.—Dr. W. R. Townsend, of New York, discussed the extreme views that have been advocated for and against operative interference in the abscesses of Pott's disease, and gave an analysis of three hundred and eighty consecutive cases. Seventy-five of these cases had abscesses, and the results of their treatment were given. Cases that were doing well were simply treated by braces; in some the abscess entirely disappeared. When the abscess was of a size to interfere with the application of a brace or with locomotion it was aspirated. In those cases where the abscess had become infected, free openings were made, thorough drainage established, and, where possible, diseased bone scraped. The results were good, despite the fact that nearly all the cases at the time of operation, or at some subsequent dressing, became infected, though in all this infection was slight.

On the Evacuation of Spinal Abscesses without Drainage.—Dr. G. A. Wright, of Manchester, England, sent a paper in which he said it would be hard to find a surgical problem more difficult to solve than that of the best method of treating abscess arising from tubercular disease of the spine. He especially mentioned Barker's method as the most scientific and practicable, but said that in referring to his notes he found that he had failed in most instances, but considered this due to the fact that the whole of the disease had not been removed. The ideal treatment would be the removal of the focus of the disease to which the abscess is due, together with the removal of the contents and wall of the abscess cavity. Unfortunately it was only in a minority of cases that this was practicable. Barker dealt with the abscess cavity by careful cleansing and removal from it of all caseous and tubercular material as far as possible, with an attempt at obliteration of the abscess cavity by immediate union of its walls.

The conclusions as to the treatment of spinal abscesses are: 1. The first essential is rest, in its surgical sense, to the spine. 2. When efficient rest has been provided an abscess should be left to itself for a period of not less than a month, unless it is increasing. 3. If the abscess increases, and is evidently going to open spontaneously, or if there is acute suppuration going on, the abscess should be dealt with by Barker's method, provided thorough asepsis can be practically assured. 4. An abscess that remains stationary for more than two months, or thereabouts, should be dealt with by Barker's method, provided rest has been afforded to the spine throughout the period. 5. Receding abscesses should be left alone. 6. Residual abscesses, if stationary or advancing, should be dealt with by Barker's method, and will nearly certainly be cured. 7. Refilling of an abscess or persistence of a sinus after evacuation should be dealt with by a repetition of the operation as soon as it is evident that repair will not take place, *i.e.*, usually in a month. 8. If there is a doubt about the real maintenance of asepsis, either from want of training on the part of the surgeon or his assistants, nurses, friends, etc., the abscess either should be left alone or dealt with by aspiration and injection of iodoform.

Bilateral Lumbar Abscess.—Dr. J. K. Young, of Philadelphia, related the history and presented the photographs of a very unusual case of recovery of a child, four years old, from severe bilateral lumbar abscess accompanying Pott's disease. He referred to the well recognized fact that abscesses in every region of the spine follow a pretty definite course and termination, the direction and exit of the pus being influenced by the seat of the lesion, and by the fasciæ and aponeuroses. He spoke of the course and exit of abscesses in the different regions of the spine, and did not believe sufficient attention had been given to the influence of the psoas and lumbar fasciæ in determining the direction of lumbar abscess, suggesting the division into internal and external lumbar abscesses.

The Benign Course of Abscesses in Pott's Disease under Efficient Mechanical Treatment.—Dr. N. M. Shaffer, of New York, made a few remarks upon this subject, not having prepared the paper announced.

The Aspirator in Orthopedic Practice.—Dr. Ap Morgan Vance, of Louisville, said that the use of the aspirator had been greatly neglected. It filled a place midway between the two extremes of leaving abscesses alone, and opening and draining them, and risking septic infection. He believed that three out of five of all spinal and hip abscesses can be cured by repeated aspirations, without an opening. Aspiration should be employed as early and as often as any fluid can be found. Firm compression is applied after each tapping, and the condition producing the abscess treated.

The Value of Mechanical Treatment in Old and Neglected Cases of Pott's Disease.—Dr. Henry Ling Taylor, of New York, said that the subject of mechanical

treatment in Pott's disease was twofold: first, to provide rest and protection to the spinal column, and proper hygiene for the patient, until the inflammatory process was arrested and repair was complete; secondly, so far as possible, to prevent or rectify deformity. Fortunately the same means, antero-posterior leverage support, might be adapted to both ends.

The course of the disease was often tedious and indefinite, healing slow. Complete bony anchylosis of the diseased vertebræ was both later and rarer than usually supposed, as indicated by more or less mobility through the kyphosis, often discoverable by careful testing in long standing and excessively deformed cases, and by the fact that in many such cases the deformity goes on increasing. Owing to imperfect treatment or other causes, symptoms and disability often persist for many years, coincidently with a gradual increase of deformity; or, after a considerable period of immunity, the original trouble may be lighted up by a strain or fall. The old and often apparently desperate cases, whether in children or adults, usually respond kindly to mechanical treatment, which should be employed with the same definite end in view as in more recent ones. The figure and carriage may sometimes be improved, and when this is impossible, increase may be prevented and the patient restored to health and usefulness. Abscesses and paralysis do not prevent a favorable prognosis in the large majority of cases. No patient should be denied the opportunity for relief on account of age, or long duration, or severity of the disease.

A Study of Atrophies.—Dr. Roswell Park, of Buffalo, said there is a great difference between arrest of growth and atrophy in a pathological signification, and yet one which clinicians as such cannot always or easily make. In 1837 Curling described a concentric and excentric atrophy of bone, also what he termed functional inertia, and the involvement of the central nervous system by which healing of injuries in paralytics is delayed. The writings of Bonnet, Verneuil, and others, and the discussions in the Paris Surgical Society, were considered at length.

The greatest importance was given to the researches of Ollier and his pupils. He established that the most common cause of hypertrophy of bone is irritation, and then studied the causes of their arrest of development and their atrophy. These causes he divided into those by which was produced destruction of tissue which concerns and favors their growth, and gradual failure in the evolution of such tissue. He carried out such a careful study of epiphysis, diaphysis, and conjugal cartilages, that he was able to show that it was not by a practical union of epiphysis to shaft that lesions of epiphyseal cartilages produce arrest of growth, but that the initial feature is arrest of proliferation of cartilage-cells. He also fully described the effect of fractures, of epiphyseal separations, of arthritis, and of anchylosis, in producing these tissue changes. Mutilations of bone almost always produce arrest of development, not alone in the bone operated upon or injured.

Diagnosis of Pott's Disease.—Dr. R. W. Lovett, of Boston, sent a paper in which he said that the diagnosis of Pott's disease does not rest upon the history of the case, and cannot be established by any subjective symptoms, however significant. The diagnosis as such must rest upon physical signs, and these are of two classes: those caused by muscular spasm and those caused by bony deformity. The symptoms caused by bony deformity occur late in the history of the disease, and it is very desirable that the symptoms caused by muscular spasm should be recognized, and the presence of the disease known before the occurrence of angular deformity.

Lateral deviation of the spine is almost a universal symptom in Pott's disease, and it is to be considered as a very suggestive symptom. High temperature is often of use in pointing to the probable presence of tubercular bone disease. The other diagnostic symptoms of Pott's disease were considered and a hasty *résumé* made of the differential diagnosis.

Open Incision on the Concave Surface in the Treatment of Inveterate Cases of Talipes Equinovarus.—Dr. B. E. McKenzie, of Toronto, sent a communication reporting nine cases operated upon since May, 1890. Four of the operations were performed upon girls from thirteen to fifteen years of age, and five upon boys from twelve to fourteen. The method of operating differs from that adopted by Phelps in making it consist of two operations, separated from each other by an interval of some weeks. In the first, the open incision on the inner side of the foot is made, cutting from a point a little in front of the internal malleolus and extending into the plantar surface, severing all tendons, ligaments and fascia that stand in the way of rectification of the varus. When any structure has been cut an effort is made to correct the deformity, so that as little cutting may be done as is actually demanded. The hand of the operator, as being more delicate for manipulation and sufficiently powerful, is used in correcting the deformity. Gypsum dressings are used to secure fixation in an over corrected position. When varus has been corrected and the operation wound healed, then the tendo Achilles is cut, and by manual force the equinus is corrected, and fixation bandages employed. By thus leaving the correction of the equinus to a later time, more power is gained in correcting the varus, which is really the difficult part of the work.

AMERICAN PHYSIOLOGICAL SOCIETY.

(Continued from p. 366.)

Second Day, Wednesday, September 23d.

Experimental Studies on Knee-jerk in Terminal Dementia.—The session was opened by the reading of a paper by Dr. William Noyes giving the results of his experiments as follows: *a*. During the cycles of depression and exaltation. *b*. During sleep.

He began his observations in 1890, and one of his greatest difficulties was to get a subject in whom the mental effects would be abolished. He succeeded in finding one who was completely demented, and at the same time perfectly tractable. He found that while in his ordinary condition of dementia that there was no increase of the knee-jerk on striking the ligamentum patella over that produced by a similar stroke on any normal individual, but during a period of extreme mental depression there was a marked decline in the knee-jerk, and when this period of depression began passing off there was a corresponding increase in the knee-jerk, until, when the subject had returned to his ordinary condition, the jerk was again normal in its character.

During Sleep.—The curves of the knee-jerks obtained from a subject during sleep showed several peculiarities. One was that the spinal cord could be aroused without disturbing the sleep of the subject or waking up the hemispheres. Any unusual noise in the room occurring at the time the blow was struck on the ligament, greatly increased the knee-jerk, which again declined as soon as the stimulation caused by the noise, such as the slamming of a door or a sharp rapping of a pencil upon a table, was withdrawn. The snoring of the subject indicated that he was in a profound sleep, and that the hemispheres were not awakened. Tracings showing the various effects on the knee-jerk caused by various noises were exhibited.

On one subject, who was in a state described as a semi-sleep, that is, he was apparently asleep but not snoring, the tracings varied greatly, and when he was aroused and talked with, the tracings of the jerk again became regular. Another point brought out was that when the stimulus was irregular the tracings of the knee-jerk were also irregular.

Knee-jerk Studied Simultaneously on both Legs.—Dr. J. W. Warren of Boston, Mass., read a paper describing

his experiments and their results in studying the knee, jerk on both legs simultaneously. His experiments were conducted in such a manner that one or both legs could be hit either together or an interval allowed to elapse between striking the right and left legs. The patient was placed in a chair, and a splint, with a hammer attached in such a manner that each and every blow was struck with the same force, was placed on his legs. The leg was well supported, so that no fatigue could be produced on the lower leg. By this arrangement the subject was unable to tell whether the blows were given on both legs at the same time or on either leg alternately.

An arrangement was also attached which recorded the kind of blow given, and whether one or both legs responded to the stimulus.

Results Obtained.—When the blows were given simultaneously on both legs they both responded. At first the jerk of the left leg was stronger than that of the right; but after the experiments were continued for a a time the jerk of the right leg increased until it almost reached that of the left.

In the midst of these double kicks, caused by double blows, a single blow on one leg was introduced and in the majority of instances the result of this single blow was a response from both legs. This was more constant in the left leg than in the right; after a number of such single blows were struck this difference between the right and left legs greatly diminished.

In another series of experiments, where at first a series of blows was struck on one leg, and then upon suddenly striking both legs simultaneously the right leg responded in only nine per cent. of the cases, and the left in sixteen per cent., thus showing a greater unwillingness on the part of the right leg in responding after changing.

Single Blows on One Leg after Giving Single Blows on the Other Leg.—At first, when one leg was given a series of single blows, and then a blow suddenly struck on the the other leg, the right leg responded in only three and one-half per cent. of all the cases and the left in seven and one-half per cent. This difference, however, decreased after a series of such experiments had been made on the same subjects.

Another very curious thing noted in a few cases was what might be called a double kick; that is, when a blow was struck on the right leg, at the time of striking the blow the left would respond with a backward kick followed by a forward kick, and in a very few cases the backward kick was even greater than the forward one.

Observations Mixed up with Sleep. — Dr. Warren found in his experiments that when a subject was drowsy or went to sleep, the knee-jerk was either diminished or disappeared entirely. During the sleep an effort was made to see if a moderate auditory stimulus would result in a kick—such as a slight rap given to a table—and in a large number of cases such a stimulus resulted in one or more kicks. However, there were a number of cases who were in a profound sleep, and on whom this stimulus produced absolutely no effect. On some of these cases where the stimulus failed to produce a response after a blow was given, he found that if he gave two blows without any stimulus, the leg responded, from which he concluded that the first blow roused the knee so that it was in a proper condition to respond to the second blow.

Dr. Donaldson, of Worcester, Mass., asked if the subjects on whom a series of blows were given on both legs, and then a single blow given on one leg, but which was responded to by a double kick, were ignorant of the character of the blow given.

Dr. Warren stated that the patient had no means of knowing what sort of a blow was given, either double or single. In reply to another question by Dr. Donaldson, Dr. Warren said that he thought it was a purely automatic action of the spinal cord.

Dr. Lombard, of Worcester, Mass., asked whether such a double kick from a single blow could not be produced by a jar transmitted from the tendon of the leg struck to the leg on the other side.

Dr. Warren said he could not see how it was possible for a jar to be transmitted without the lapse of a slight interval of time between the responses from both legs, and in his cases be found both legs responded simultaneously.

Dr. Bowditch, of Boston, Mass., stated that in his opinion the response from the other leg could be due only to a reflex action, and that it did not seem possible for a jar to be transmitted up through the entire body and down to the other knee, otherwise you would get a knee-jerk from a jar caused by a blow, even from the head.

THE AMERICAN PEDIATRIC SOCIETY.

(Continued from p. 367.)

Second Day, Wednesday, September 23d.

Congenital Heart Disease. — Dr. William Osler, of Baltimore, reported a case of congenital heart disease. In the absence of the author the paper was read on invitation, by Dr. W. T. Howard, Jr.

Drs. J. L. Smith and L. E. Holt, of New York, discussed the report.

Submembranous Treatment of Diphtheria.—Dr. A. Seibert, of New York, read a paper entitled, "Further Report on Submembranous Local Treatment in Pharyngeal Diphtheria, with Exhibition of Instruments." The paper was based on fifty cases in addition to those which had been published. He used for the injection about fifteen minims of the chlorine water of the United States Pharmacopœia. The fluid should be injected deep enough to reach below the pseudo-membrane. It should be remembered that the effect of the injection does not extend to membranous exudate located at a site distant from the point of injection, and that it is to be made into the submucous tissue.

Dr. H. Koplik, of New York, considered the paper as a perfect bacteriological report of therapeutics. We should remember that the disease, diphtheria, varies with different epidemics, and one treatment will be accordingly more or less successful.

Dr. W. P. Northrup, of New York, inquired as to the bacteriological conditions in diphtheria.

Dr. Koplik believed that the attempt of Dr. Seibert was proper as a bacteriological effort, though incomplete.

Dr. J. L. Smith, of New York, stated that the Klebs-Lœffler bacillus does not enter the vessels, but the product of it, the toxic agent which produces the systemic infection. If we injure the vessels we may allow of the entrance of the poison.

Dr. Holt had not had good results in the treatment of diphtheria by drugs. He thought diphtheria first a local, then a constitutional, disease, and the application of chlorine water he regarded as rational, if we take this view. He thought gargles and sprays useful, but he would not depend upon them for germicidal action.

Dr. J. H. Fruitnight, of New York, inquired as to details of treatment.

The President said that he was never sanguine in the treatment of diphtheria Where the diphtheritic exudate had been localized on the tonsils, he had had the best results in practice.

Dr. Putnam, of Boston, inquired about the extent of the membrane after injection and asked about the appearance of the throat so far as could be shown by œdema and congestion.

Dr. Seibert closed the discussion. He had found the Klebs-Loeffler bacillus in a large proportion of his cases. That alone would preclude the patients treated not having had diphtheria. He had seen extension of the membrane when he had not made his injections thorough enough. The œdema and congestion were always loosened and the mucous membrane made paler. He regarded diphtheria as a disease of the mucosa, and the in-

jections should be made into the sub-mucosa. The chlorine water has a local effect and does not enter the circulation. He had not often found it necessary to use a gag in the local treatment by chlorine water injection. The smaller the child the easier the treatment. If the first injection is thorough it will be unnecessary to repeat it. He would have it understood that he also used general medication.

Ulcerative Catarrhal Dysentery.—Dr. W. D. Booker, of Baltimore, read a paper on this subject, in which cultures were made of the bacteria in the stomach, different parts of intestine, and other abdominal organs, in one to three hours after death. The two species of bacteria found constantly in the intestine of milk-fed infants, were distributed in the intestine in this case more in correspondence with the healthy than the diarrhœal intestine. A species of bacteria was found in large number in the diseased part of the intestine and not in the healthy parts, which has not been found in the healthy or diarrhœal fæces. The distribution of bacteria in the mesenteric glands showed bacteria similar to the portion of intestines with which each gland was connected. Care was taken not to draw conclusions from a single case.

The Diagnosis of Pneumonia.—Dr. A. Jacobi, of New York, in continuation of his remarks on the diagnosis of pneumonia, made at the first session, said that enlargement of mediastinal glands may lead to difficulty in arriving at a conclusion. It might be necessary to delay expressing an opinion if such enlargement existed.

The following papers were read by title: "The Treatment of Laryngeal Diphtheria by Calomel Sublimations," by Dr. Dillon Brown, of New York. "Stricture of the Œsophagus Occurring in Children," by Dr. F. E. Waxham, of Chicago. "A Case of Pulmonary Abscess—Operation and Recovery," by Dr. F. Huber, of New York.

Progress of Medical Science.

The Presystolic Bruit — Professor Cantalamessa, of Bologna, says the presystolic *bruit*, which a Bolognese professor (Brugnoli) was one of the earliest to study (1859), is still by some regarded as pathognomonic of mitral stenosis. Flint, however, reported three cases of aortic insufficiency, in each of which a presystolic *bruit* was distinctly heard as well as the diastolic, but in which the mitral valves were found intact after death. His explanation was that the chordæ tendineæ of the mitral valve vibrated owing to increased tension during the auricular contraction, because the ventricle received blood both from the aorta and from the auricle. Keit thought that the murmur was of aortic origin, due to the great differ erence of tension between the loaded ventricle and the empty aorta at the moment of beginning of systole. But if so, Cantalamessa maintains, the *bruit* should be heard over the base of the heart, not the apex. De Renzi gave as the cause the meeting of the two currents of blood, one (abnormal) from the aorta, the other (normal) from the auricle. But this and Flint's hypothesis are, in Cantalamessa's opinion, open to the grave objection that if either were true a presystolic *bruit* ought to be very common in aortic insufficiency, which it is not. Nor is it heard in cases of great insufficiency, but only in rare cases, and then strictly localized over the apex. This suggested to Grocco the following theory: The regurgitation varying in amount and direction according to the degree and seat of the aortic lesion, if only one semilunar valve fail to act, the current backward will be oblique, and if directed posteriorly will cause the anterior bicuspid valve to become tense, and vibrate against the stream coming from the auricle, the brief auricular systole aiding. Further, if the backward current does not strike against the valvular cusp, it will still impinge against the ventricular wall, and in certain cases be reflected against the auricular current. After reference to the views of Dickinson, Constantin Paul, and Fenwick and Overend, Cantalamessa proceeds to examine why the first sound is strong in mitral stenosis, and weak, or even absent, in aortic regurgitation. The first sound is normally caused by (1) the heart muscle, (2) the atrio-ventricular valves, (3) the arterial distention. Which of these three will explain by its alteration the phenomena just mentioned? Certainly not the first, for in mitral stenosis the left ventricle is not hypertrophied; nor the last factor—namely, arterial distention—because in the same disease the pulse is small. There remains valvular tension as the cause. The more suddenly the valves pass from extreme relaxation to great tension, the more readily will a sound be produced. Now, in aortic insufficiency the refluent strain tends to make tense the valves gradually, so that in this final closure there is no abrupt change, and hence the first sound is weak or absent; but in mitral stenosis, owing to the negative pressure in the left ventricle, the valves are at one time extremely relaxed and then suddenly stretched, which causes a short and sharp first sound. As regards the presystolic *bruit*, Cantalamessa concludes that: (1) The *bruit* heard immediately before the first sound in mitral stenosis, in double mitral disease, and (occasionally) in aortic insufficiency, is really a presystolic *bruit;* (2) it is not pathognomonic of mitral stenosis; (3) its presence warrants the diagnosis of mitral stenosis only when a careful examination of other physical signs allows the exclusion of aortic insufficiency.—*British Medical Journal.*

Ehrlich's Test in Typhoid Fever.—This test, which has been known for a number of years, has till recently been regarded by many rather as a medical curiosity than as of diagnostic value. Dr. C. E. Simon, of the Johns Hopkins Hospital, has recently shown that by carefully following the precise directions for its use valuable information may be derived. The test consists of two solutions: 1. A saturated solution of sulphanilic acid in five per cent. hydrochloric acid. 2. A five per cent. solution of sodium nitrate. These are to be mixed, just before use, in the proportion of 40 c.c. of (1) to 1 c.c. of (2). If this mixture be added to urine from a case of typhoid fever, the further addition of ammonia will produce a play of colors varying from an eosine rose to a deep garnet red. The best method of applying the test is to take a few centimetres of urine in a test-tube, adding an equal quantity of the sulphanilic acid mixture, and shaking thoroughly; 1 c.c. of ammonia is then run carefully down the side of the tube. At the junction of the two liquids there will be observed a ring of the characteristic color, which is produced in scarcely any other disease than typhoid fever. Dr. Simon's conclusions may be thus summarized: 1. The reaction may be obtained in typhoid fever from the fifth to the twenty-second day of the disease. 2. Its absence from the fifth to the ninth day indicates a very mild attack, save in children, although this rule is not an absolute one. 3. As it occurs previous to the appearance of the rash, it is a very useful aid in the diagnosis of typhoid fever.—*Therapeutic Gazette.*

The Diagnostic Value of Laveran's Organisms.—Dr. Townlin, of Baltimore, has had considerable clinical experience in malarial fevers. Regarding the importance of the organisms of Laveran in recognizing obscure cases, he has arrived at the following conclusions: 1. There are cases in which, from history, symptoms, and signs, we cannot differentiate between malarial fever and certain other diseases. 2. In examining the blood of these cases for the presence or absence of Laveran's organisms, we have a means of diagnosis at once accurate, practical, and practicable. 3. Those cases are rare in which the organisms, though present, cannot be found, and they do not exist at all if the examinations are careful and the examiner has had experience.—*Medical News*, September 19, 1891.

MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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HOSPITAL REPORTS.

WE have recently reviewed in another column a volume of hospital reports issued from the Blockley Institution in Philadelphia, which, in a medical way, corresponds to Bellevue in New York, though with, we believe, a considerably larger capacity. It is a creditable volume in every respect. As we have looked over its pages and have seen how much valuable clinical information has thus been recorded in a concrete form, we have been forcibly reminded of the poverty in this department of medical literature in our country at large, and in our own city in particular. The glory of such English institutions as Guy's, St. Thomas's, the London, and other hospitals, comes largely from their well-digested reports, which appear regularly and have a recognized place and standing in general medical literature.

It is not at all creditable to us here in New York that such a state of affairs exists. We have the institutions, some of them of a good age. Nearly all of them are fairly provided for in a material way. We have the men who are doing good work in them. We have a vast amount of clinical material—so vast, in fact, that only a small proportion of it is utilized as it might be. In fact, we have everything except—satisfactory reports.

Why is it? We can think of several reasons. And the first one is the mistaken idea which hospital managers have of the proper nature of a hospital report. In the average report as now issued too much attention is given to the domestic side, and too little to the professional side, of the institution. If an institution makes no appeal to the public for funds, it is under no obligation to give a detailed account of its expenditures. If it does appeal to the public for money, such financial statements as the public is entitled to could be published in the newspapers and reach a much larger number of people than does the present system of annual reports, and would also cost much less. Too much space is taken up with details which are of no earthly use to any but those who actually have the direction of the institution and buy its supplies. No one cares how many bars of soap have been used in the laundry or how many bags of oats the ambulance horse has eaten. The name of the institution vouches for cleanliness of linen and sound horseflesh. If the money spent in the publication of these useless details could be diverted toward elaborating the medical side of the report, great good might be done.

In regard to the latter side, a different principle should prevail in the preparation of the reports. A proper report has two parts, first, tabulation, as preparatory to the second, analysis. We now stop short at the first. Under the heading of, say, typhoid fever, we read: "Males—females, total; recovered—died—remaining in hospital." We submit that such information is not very valuable. It costs money to publish reports, we know, but if the money is properly expended, the proper kind of reports can be published at very little, if any, greater expense than the present faulty ones.

This reform must come from the medical officers of the hospitals. Right here we must bring an indictment against some hospital attendants. There has been a great gain in some respects in the adoption of the so-called "continuous-service" plan. But in others there has been a loss. There is little doubt, it seems to us, that the hospitals are not as widely diffusing, under the present system, the general benefits arising from the work they do as was formerly the case when there were more attendants. The benefits are now confined to a few. The latter, in virtue of the positions which they hold, have a certain duty to the profession at large. They, and they alone, can furnish the necessary stimulus to proper editorial work on the reports, and they should be willing to do so.

We believe that this work can only be done by the appointment of a medical officer, to be known as the editor. He should receive a proper compensation. The work must be under the direction of one man who has time for it. What is everyone's work is done by no one. He should be allowed to indicate the lines along which histories should be taken by the house staff. As it is now, Dr. A—— takes very good histories for six months without any suggestions from anyone; but his successor, Dr. B——, in whom the literary talent has no development, makes wretched work of the task. No one fails to appreciate this unevenness who tries to look over old hospital reports in manuscript. There is such a variation in the ways in which they have been taken that it is almost impossible to properly analyze the facts they contain.

We are glad to notice that the reports of the last two years from one or two of our private institutions—those supported by endowments—show an advance along the lines indicated. Therapeutics begin to receive attention. Unusual cases are given with some detail. Tabulation is made subordinate to analysis. We hope the reform thus begun will continue and spread to other institutions, and that the reproach under which New York now labors in this direction will soon have no cause for existence.

BICYCLING AS AN EXERCISE.

THE enormous popularity of the bicycle since the "Safety" type has been introduced, makes the question of its use an important hygienic and medical problem. A writer in the New York *Times* quotes the following comment of a physician:

"I must put my boy at a gymnasium to counteract the effect of his Safety, which his mother persuaded me against my better judgment to buy for him. I am strongly opposed to bicycles for growing lads. It develops a little

leg and arm muscle which any ball playing, running boy gets without it, and it also develops very frequently round shoulders and contracted chest. At least it does in my son, and he was a straight lad with a good breadth of chest before he began to ride."

Against this opinion, however, must be set one quite different, heard at the same time. "It all depends on the way a boy begins, whether the exercise is beneficial or not," was the comment of a second father; "he should not be allowed to teach himself, but be sent to some instructor, from whom three or four lessons will suffice. He will be taught to mount properly, sit well, and ride in an erect position. It is as important as to be taught how to ride a horse. Any boy or man can stick on a horse, but there is every difference in the manner in which boys and men ride the animal. I am convinced that bicycling is a good exercise for a growing boy, with plenty of pleasurable profit in it, if it is properly done"

We recall the opinion of some English writers on this subject, who asserted that a urethral stricture might be produced in boys by its excessive use. Such a danger is probably purely fanciful in connection with modern bicycles and properly constructed seats; for the weight of the body does not come upon the perineum at all. On the whole, we believe that medical opinion inclines to favor the bicycle as a means of exercise, as containing very few elements of harm or danger. It can only be said that excessive addiction to the machine, especially the indulging in racing, and faulty methods of holding the body, will do harm, particularly to growing boys.

THE THERAPEUTIC USE OF EXTRACTS OF ANIMAL TISSUES.

THE persistence and ingenuity shown by Dr. Brown-Séquard in his study of the physiological effects of the juices obtained from the testicles and other glands of the bodies compels attention and interest. It seems to have been quite well proved that the injections of testicular juice have no such "dynamogenic" power as was at first alleged. That this and other secretions, however, have no physiological influence is certainly improbable, and, according to Brown-Séquard and his co-workers, is positively untrue. In an article on "The Action of Liquid Extracts Obtained from Different Organs," by Drs. Brown-Séquard and D'Arsonval (*Archives de Physiologie*, 1891, No. 3), evidence of this belief is presented, and the technique of preparing and using the extracts is described. These authors assert that each gland of the body has two functions, one, that of secreting a substance from the blood, the other, that of supplying to the blood some needed constituent. It is this latter substance which it is proposed to obtain and use therapeutically. It is stated that the secretions themselves contain some of the dynamogenic or other substance required by the organism. In illustration, the extraordinary fact is cited (p. 492) of a young physician who injected hypodermically some of his own sperm into his invalid wife's tissues. Her strength improved, and after four injections she was well. This is truly an extraordinary method of fulfilling the conjugal relations, but they do rude things in France.

The authors quoted give a number of illustrations to show that injections of the fluid of certain glands relieves symptoms caused by extirpating those glands. Thus, in the case of a dog suffering from the effects of the total removal of the thyroid, the symptoms were relieved by the injection of juice of the thyroid. A total extirpation of the pancreas causes, it is said, diabetes, but if a small part of the gland is left this accident does not occur; and this is thought to be due to the so-called external or extrinsic action of the gland upon the blood.

A wide therapeutic field opens before the scientific imagination if the views suggested above are true. Thus in myxœdema, injections of the thyroid juice should be used; in Addison's disease, the juice of the supra-renal capsules; in diabetes, the pancreatic juice; in leucocythæmia, the juice of the thyroid glands, spleen, and medulla of bones; in muscular weakness, the muscle juice.

The injection of these juices, however, unfiltered and unsterilized, is not free from danger, the testicular and ovarian juices alone excepted. Other juices are liable to cause death from septicæmia.

In order to render injections aseptic and harmless, our authors submit the fluid to a pressure of CO_2 of 40 atmospheres, and then pass it through a specially constructed filter. Bacteriological tests by MM. Straus and Gamaleia show that the fluid now contains no microorganisms, and experimental tests show that its use causes no accidents.

The juices are extracted with glycerine, and after they have been treated so as to be made innocuous, are kept in sterilized flasks. According to our authors, over 15,000 injections have been made by various physicians in Paris. With such a large experience it is unfortunate that no reports of definite therapeutical results are yet furnished. We trust that these will come later.

WHERE MEDICAL PRACTICE IS EASY.

TIMID souls who dislike examinations, and ignorant ones who know they could not pass one, are finding their field for medical practice gradually becoming more and more restricted. Some of the conservative old New England States are, however, still open to them, and in Connecticut especially they can roam at will and hurl their death-dealing shafts without restraint, as witness the following letter, published in the Board of Health *Bulletin* of that State. The letter was sent in reply to an inquiry from a physician concerning the restrictions on practice there existing. "Sir: Anybody can practise medicine in Connecticut. You do not need to register; you do not need a medical diploma; you do not need to know the difference between opium and peppermint; you do not, indeed, need to know anything. You can simply come and live here, and begin to practise. The laws of Connecticut will sustain you in collecting your fees for professional services, if you render any which you choose to call such. But if you undertake to carry me or my trunk to the depot for pay, you must get a license. If you peddle matches or peanuts, you must get a license. If you collect the swill from your neighbors, to feed your pigs, you must get a license. If you want to empty your cesspool, you must get a license. But you can practise medicine in Connecticut without a license."

As this letter witnesseth, the reputable practitioners in

the conservative old commonwealth to the east of us are growing restless. We would therefore advise the lazy one who is casting about for an easy berth to bestir himself, for many sessions of the legislature will not pass ere our neighbor falls into line with the other States that have some regard for the lives of their citizens, and shuts the door on medical free lances.

LONDON DOCTORS ON THE DRINK QUESTION.

THE London daily papers have a habit of inviting the public to share in certain discussions in their columns on topics of current interest. It seems to be becoming a custom for eminent medical men to take part in these discussions. While we cannot see any particular reason why a doctor should not contribute his share to the diffusion of knowledge as well as a lawyer or clergyman, still the custom strikes Americans as being a rather odd one, particularly for so conservative a country as England. The latest bit of wrangling has been over the old, old topic of alcoholic liquors; the especial interest this time has been over the radical and defiant attitude of "the celebrated alienist of Hanover Square, Dr. W. [J.?] Mortimer Granville." Dr. Granville, we are told, comes out strongly in favor of rum. He says, according to the *Sun*, apropos of Sir Wilfred Lawson's quotation from Lord Althorp, "the cause of drunkenness is drinking," that "drunkenness is in no other sense the consequence of drinking than the destruction of a house by fire is the consequence of having a cooking range on the premises," and goes on to say: "It is not to engage in the puerile play of words with Sir Wilfred Lawson and the advocates of what I believe to be one of the weakest and most mischievous crazes of the nineteenth century—I mean teetotalism—that I ask you to give me space in your columns, but because I think the time has arrived when it is desirable that someone who has strong views on the subject of what it is the fashion of the day to denounce as 'drinking,' should speak out honestly. I have never shared the opinions of the many in my profession on the drink question, and I have not intentionally veiled my view of the issue so repeatedly raised and so hotly discussed; but the moment appears opportune for plain speaking, and I trust this may be permitted not only to those who seek to convince the public mind that alcohol in all its forms is needless to the health, and of only questionable value to the sick, but to those who hold that it is far better that the healthy should be moderate drinkers than abstainers, and that the great value of alcohol in the treatment, and I will go further and say, in the prevention, of disease, should be clearly recognized." Further than this, Dr. Granville says that he honestly believes that the propagation of teetotal doctrines is exercising a destructive influence on the moral, mental, and physical health of the people, and that those who have rational views on the matter are doing a great wrong in giving way, step by step, before the aggressive policy of the teetotal advocates.

For the utterance of these views Dr. Granville gets pummelled vigorously by some of his esteemed confrères. And this is no more than right. For, while it is not yet precisely shown that alcohol in moderation does harm to the majority of people, it has equally not been shown that a total withdrawal of it would be injurious. Therefore Dr. Granville is only sensationally promulgating an opinion that may or may not be true. It is not a demonstrated fact.

THE THERAPEUTICS OF THE SENILE HEART.

DR. GEORGE W. BALFOUR has published, in the *Edinburgh Medical and Surgical Journal*, a useful series of papers on the therapeutics of the senile heart.

As in old age it is the heart and vessels which oftenest give trouble and warn the patient that his declining years have come, the treatment of these conditions naturally excites interest.

The senile heart is essentially, says Balfour, a heart in which the main trouble is malnutrition. It is not, however, a fatty heart, this being a very rare condition, and one "impossible to recognize."

The first symptoms of approaching senility of the heart are irritability and a sensation of uneasiness in the cardiac region, sometimes amounting to pain. Along with this there may be fits of palpitation, in the form of rapid but not usually forcible action, which come on after exertion, such as running rather quickly upstairs, upon any excitement or sudden emotion, or during the night from reflex causes, mostly of gastric origin; or there may be fits of *tremor cordis* coming on suddenly, without warning and apparently without cause. The rhythm of the pulse is occasionally and temporarily irregular in force and frequency; or it may simply intermit, drop a beat at irregular intervals; or this intermission or dropping of a beat may occur at regular intervals of longer or shorter duration, and this regular intermission may either be constant, or only occur occasionally at irregular intervals, and mostly as the result of emotion or of gastric disturbance.

These phenomena are always indicative of cardiac debility, which, left to itself, sooner or later leads to dilatation of the heart, as well as the other serious symptoms which we find associated with senile degeneration of that organ. After a time attacks of cardiac failure or of angina may occur; but this is not always the case. Many patients suffer for years from the *tremor cordis* and other symptoms, without any more serious trouble supervening. The pulse may be small, soft, and compressible, with a low blood-tension. In these cases there is more often anæmia of some form. If the pulse is hard and tense, then we may suspect a gouty or renal complication, or both. Sometimes the arteries are plainly hard from atheroma, and yet the blood-tension is low; and here we must suspect a feeble and dilated heart.

When the blood-pressure is low, carefully graduated exercise is especially indicated.

A great deal of importance is attached by Dr. Balfour to the diet, especially in cases complicated with obesity. His main rule, however, is temperance in food and drink; another important point is that the meals should be five hours apart, and that the heavy meal should be in the middle of the day. Very little fluid should be taken at the meals, and alcohol is much better not taken at all. Tobacco also does harm, as a rule.

Among drugs stress is laid upon digitalis, given in small doses in the form of the tincture. Strychnine, arsenic,

the nitrates, and in cases of high tension the iodide and bicarbonate of potassium, are recommended. For constipation and flatulence he advises the old compound galbanum pill.

News of the Week.

The Journal of Comparative Neurology, edited by C. L. Herrick, and published quarterly at Cincinnati, is a most creditable contribution to scientific periodical literature, and we cordially welcome it among our exchanges.

Hydrochloric Acid in Diphtheria.—Starting from the fact established by Roux and Yersin (*Bulletin Médical*, 1889), that the virulence of diphtherial toxins can be considerably diminished by slight acidulation of the bacterial products—especially with some mineral acid—Dr. S. H. Kraszewski, of Ivyë, resolved (*Gazeta Lekarska*, No. 28, 1891, p. 555) to try hydrochloric acid in six typical cases of croup in children, aged from six months to three years, and in five cases of faucial diphtheria in two children and three adults. The following formula was used: ℞. Liq. ferri perchloridi, *Ph. Ross.* (that is, equal parts of the iron salt and distilled water), 4 grammes; acidi hydrochlorici, 1.0 gm.; aq. destillatæ, 200.0 gm. M. D.S: A teaspoonful every fifteen minutes for one hour; then every thirty minutes for three or four hours; later on every hour. In faucial diphtheria the remedy was applied locally as follows: ℞. Liq. ferri perchloridi, *Ph. Ross.*, 8.0 gm.; acidi hydrochlorici, 1.0 gm.; aq. destill., 30.0 gm. M. D.S: To be painted over the affected area with cotton-wool every two hours, a fresh piece being used on each occasion. The treatment lasted from two to five days, the only adjuvants employed being frequent gargling with a four per cent. solution of boracic acid in faucial diphtheria, and the internal administration of a 1.5 per cent. solution of sulphate of copper in croup (as an emetic when symptoms of laryngeal obstruction were present). Every one of the patients made an excellent recovery. In four out of five faucial cases the diphtheritic deposits vanished completely and permanently in from twenty-four to forty-eight hours, the throat becoming normal within three or four days. The fifth patient recovered in a week. The laryngeal cases (of which two had been apparently hopeless) were cured in from three to five days. In none were any unpleasant accessory effects observed.

A Heavy Dose.—This is the order which a little girl brought into a Lewiston druggist's store the other day. It was written on a dirty piece of note-paper, as follows: "Mister druggist: Please send ipecac enough to throw up a four-year-old girl."

Organization of the State Board of Medical Examiners.—The Board announces that it organized, September 1, 1891, with Dr. William C. Wey as President and Dr. M. J. Lewi, of Albany, as Secretary. The following assignments for examination purposes were made: Physiology and Hygiene, William C. Wey; Surgery, George Ryerson Fowler; Obstetrics, William Warren Potter; Anatomy, William S. Ely; Chemistry and Materia Medica, Maurice J. Lewi; Pathology and Diagnosis, J. P. Creveling; Theory and Practice and Therapeutics, Eugene Beach.

A committee to scrutinize all questions submitted by the twenty-one examiners composing the three boards, consisting of two representatives from each board, was agreed upon, and from our body Drs. Fowler and Lewi were appointed. This same committee of six was furthermore charged with the duty of preparing a syllabus. The method of examination agreed upon will be as follows: Each of the twenty-one examiners will transmit to the Secretary of the University of the State of New York, on or before September 15, 1891, by registered letter, at least sixty questions on the topic to which each may have been assigned. At some date thereafter, on the call of the Secretary of the University, the committee of six above referred to, who are known as the Questions Committee, will convene in a room set apart by the Regents and supervise the preparation of all examination papers to be made up from the questions submitted, having the privilege of omitting such questions as may seem impracticable, unfair, or otherwise unsuitable—however they will have no power to add or substitute questions. This review of questions is vested in the committee on all subjects other than therapeutics, practice, and materia medica, in which branches the law states that "the questions shall be in harmony with the tenets of the school selected by the candidate"—accordingly the two representatives from each board will have the sole revision of the questions submitted by the examiners from their board on these topics.

The conference of the three boards agreed upon the following recommendations, to be submitted to the State Board of Regents, which body will undoubtedly ratify the action of the Board of Examiners: 1. A medical syllabus to be prepared (covering all subjects in which examinations are to be held) under the direction and supervision of a committee of six, to consist of two members appointed from each board. 2. A committee on questions, composed of six members, two to be appointed from and by each board, whose duty it shall be, on the call of the Secretary of the University of the State of New York, to convene at Albany and revise all questions submitted by the individual examiners under section five (5) of the law. 3. Each question paper on the seven topics shall consist of fifteen questions, of which the candidate shall cancel five and be marked on his answers to the remaining ten. 4. One hundred points shall be the standard, and each candidate must secure 75 points in every branch before his or her name shall be recommended to the Regents as a proper person to be licensed to practise medicine in this State. 5. Four examinations shall be held during the coming year in New York, Albany, Syracuse, and Buffalo, the dates of which may be fixed at the discretion of the Board of Regents. 6. All examinations shall be conducted in the English language. 7. Examinations for medical license shall be conducted on all subjects at one examination consisting of the requisite number of sessions. 8. No conference of the Board of Medical Examiners shall be held excepting on request of a joint call by a majority of the members of at least two of said boards, as certified to the Secretary of the University by the proper officers. 9. If, in the opinion of the Board of Regents, it becomes necessary or advisable, additional examinations shall be held as occasion may arise. 10. At least sixty questions by each examiner in his depart-

ment shall be sent by registered letter to the Secretary of the University, on or before September 15, 1891.

International Congress of Hygiene and Demography.—The next meeting of this Congress will be held in Buda-Pesth in the summer of 1894.

Arthritis of Obesity.—At the fourth general meeting of Russian Medical Men, Professor Vasily I. Küzmin, of Moscow, read a paper on certain forms of chronic inflammations of joints, dwelling especially on "arthritis of obesity," and advocating the following general propositions: 1. In stout subjects there fairly frequently occurs a peculiar variety of chronic arthritis which mainly attacks the knee articulations, but may also develop in the hip and shoulder joints. 2. Apart from accidental causes such as rheumatism, cold, etc., the most important part in the causation of the affection is played by a lowered systemic tissue metabolism and—in cases of a rapidly developing obesity—by an over-burdening of the joints by the bodily weight. 3. In arthritis affecting the lower limbs, another important factor favoring its development is constituted by disturbed circulation (congestion) in the extremities. 4. The best treatment of the joint disease consists in measures for decreasing obesity (and with it the bodily weight, etc.)—hot baths, douches, electricity, massage, and alkaline mineral waters.

Some of the Amenities of Medical Journalism.—A contemporary of the Southwest, whose language is a little too violent at times to render him wholly and heartily esteemed, refers in the following affectionate terms to another medical editor to the north of him: "—— is a notorious liar. He is not only a liar, but a dirty lap-eared cur. He subsists on filth; filth is his only food. He grovels in putrescence; he delights to root up, with his filthy beak, the reeking cesspools of falsehood and calumny. He is a base ingrate; a dirty whelp, wholly destitute of honor and a disgrace to his *alma mater*. For years this fellow has attempted to do us injustice and injury. For four years we allowed his dirty insinuations to go unnoticed, but now and henceforward we propose to give the dirty little rascal successive lambastings he will not soon recover from. By some hook, crook, or turn, he has succeeded in hooking himself onto a medical college as a 'p-r o-f-e-s-s-o-r.' Ye gods and little fishes. A professor? If such ignorant bombastic boors are allowed to teach medicine, the question of higher medical education should be no longer discussed." And much more of the same kind.

The Population of the Sandwich Islands.—The preliminary returns of the census of Honolulu and the Hawaiian Islands, which was taken on December 28, 1890, were made public by the Secretary of the Board of Education recently. The total population of all the islands of the group is 89,990, of which number 34,436 are natives, 15,301 Chinese, 12,360 Japanese, 8,602 Portuguese, 1,928 Americans, 1,344 British, and 1,034 Germans. The population of Honolulu is 22,907, divided into 13,998 males and 8,909 females.

The Medical Society of Virginia will hold its twenty-second annual meeting in Lynchburg on Tuesday, October 6th, and the two or three following days. The following programme is announced: Report on Anatomy and Physiology, by Dr. Paul B. Barringer, of University of Virginia; Report on Chemistry, Pharmacy, Materia Medica, and Therapeutics, by Dr. Benjamin Harrison, of Richmond; "The Place of the Turkish Bath in the Treatment of Disease," by Dr. Charles H. Shepard, of Brooklyn, N. Y.; "Pharmacy and Its Practical Relation to the Profession," by Dr. S. J. Baker, of Bedford City; Report on Obstetrics and Diseases of Women and Children, by Dr. Herbert M. Nash, of Norfolk; "Puerperal Eclampsia—Its Etiology and Treatment," by Dr. J. T. Graham, of Wytheville; "Etiology and Pathology of Puerperal Inflammations, Illustrated with Specimens," by Dr. Thomas A. Ashby, of Baltimore, Md.; "Retrodisplacements of the Uterus," by Dr. H. P. C. Wilson, of Baltimore, Md.; "Recognition of Operative Cases in Gynecology by the General Practitioner," by Dr. Joseph Hoffman, of Philadelphia, Pa.; "Remarks on Salpingitis and Peritonitis—the Result of Gonorrhœal Infection," by Dr George Tucker Harrison, of New York; Report on Practice of Medicine, by Dr. Lewis E. Harvie, of Danville; "Importance of the Microscope to the General Practitioner as an Aid to Diagnosis and Correct Medical Treatment, with some Demonstrations in Bacteriology," by Dr. James E. Reeves, of Chattanooga, Tenn.; "Hæmorrhoids and Their Treatment," by Dr. J. N. Upshur, of Richmond; "Symptomatology and Treatment of the Chronic Forms of Nephritis," by Dr. William C. Dabney, of University of Virginia; Report on Surgery, by Dr. Thomas M. Bowyer, of Sioux Falls, S. Dak.; "Present Aspect of Cerebral Surgery," by Dr. Landon Carter Gray, of New York; "Perineal Operations," by Dr. Joseph Price, of Philadelphia, Pa.; "Concussion of the Lungs," by Dr. B. A. Watson, of Jersey City, N. J.; "A Successful Myomectomy for Parasitic Tumor," by Dr. I. S. Stone, of Washington, D. C.; "A Plea for Closer Study of the Principles of Surgery by the General Practitioner," by Dr. George Benjamin Johnston, of Richmond; A paper by Dr. A. M. Phelps, of New York; "Treatment of Goitre by Electrolysis," by Dr. Charles M. Shields, of Richmond; Reports on Ophthalmology, Otology, and Laryngology, by Dr. J. Herbert Claiborne, Jr., of New York, and Dr. John Dunn, of Richmond; "Ophthalmology in Ancient Egypt," by Dr. W. H. Baker, of Lynchburg; "Some Personal Observations on Cataract Operations," by Dr. A. W. Calhoun, of Atlanta, Ga.; "Mistaken Impressions about so-called Nasal Catarrh," by Dr. Joseph A. White, of Richmond; "Some Suggestions about Cataract Operations," by Dr. Joseph A. White, of Richmond; Report on Neurology and Psychology, by Dr. William F. Drewry, of Petersburg; "Hereditary Chorea," by Dr. Wharton Sinkler, of Philadelphia, Pa.; Report on Hygiene and Public Health, by Dr. W. T. Oppenhimer, of Richmond; "The Drink Problem from a Medical Point of View," by Dr. T. D. Crothers, of Hartford, Conn.; "The Drink Problem from a Medical Point of View," by Dr. Frederick Horner, of Marshall; "What is to be Done with our Criminal Lunatics?" by Dr. J. T. Graham, of Wytheville.

Nervous Diseases in Japan.—Dr. Wallace Taylor, in his Report of the Osaka Medical Work of the Japan Medical Mission, says that neuralgia is very frequent in Japan. Multiple neuritis is also common, chiefly in the endemic form of *kakke*. Polio-myelitis, especially the

infantile form (infantile paralysis) is frequently met with. Excepting paralysis from *kakke* it is the most frequent form of paralysis seen in Japan. But lateral sclerosis (primary spastic paraplegia) is not often seen in clinics, nor are such patients seen *stilting* along on the streets in Japan, while posterior sclerosis (locomotor ataxy) is almost unknown. We have yet to see the first case in Japan. It is reported that such cases are occasionally seen in Tokio. Meningitis is frequent in hot weather.

American Students in Berlin.—The number of American students in Berlin this summer is unusually great. At the University alone the number is 208 out of a total of 5,547. Many others are attending private clinics, studying Koch's methods, learning the German language, or pursuing studies in art and music. Most of the Americans at the University are graduates of American colleges, Harvard, Yale, Princeton, and Johns Hopkins being the most largely represented. There are many graduates also of American medical and theological schools. More Americans are attending the medical lectures than any other courses, Koch, Virchow, and Bergmann especially attracting them.

The Point of View.—The following questions in Materia Medica and Therapeutics were asked by the New Jersey State Medical Board at its April examination :

Materia Medica and Therapeutics.—1. What is dialyzed iron, and how is it prepared? 2. What is cantharides? Its uses and doses when internally administered? 3. What is chloroform? Its specific gravity, uses, and doses? 4. Give the formula and mode of making camphorated tincture of opium. 5. Give the formula of the compound cathartic pill of the United States Pharmacopœia. 6. Give average internal dose of each of—1, atropia; 2, morphine; 3, strychnia, for a child four years of age. 7. How is antifebrin prepared? What are its physiological effects, uses, and doses? 8. Describe infusion, decoction, maceration, and digestion. 9. Give five irritant poisons and the antidotes of each. 10. Write a prescription containing nitro-glycerine, and give the symptoms to be relieved.

Homœopathic Materia Medica and Therapeutics.—1. Explain the difference that exists between the primary and secondary action of a medicine, and give an example. 2. Name the most important remedies, with their doses, for dysentery in an adult. 3. Differentiate the brain symptoms of cuprum aceticum and stramonium. 4. Give the thoracic symptoms of bryonia alba. 5. Give the enteric symptoms of colocynthis. 6. Describe the characteristic inflammation of belladonna. 7. Give the urinary symptoms of cannabis sativa. 8. Name the most valuable remedies in diphtheria—the simple and malignant forms. 9. Describe a disease in which hydrastis canadensis is the indicated remedy. 10. Give the skin symptoms of antimonium crudem.

The Danger of Administering an Anæsthetic to a Woman, Unless in the Presence of a Third Party, is well illustrated in the following case which we find reported in the *Sei-I-Kwain Medical Journal*: "A woman, named Kin Mihashi, aged twenty, having been suffered from the uterine disease, consulted of a physician at Yokohama, who administered anæsthetic. While under the influence of the drug, as she stated that the doctor conducted the immoral action, and appeared before the court yesterday. It is advisable for a young physician not to give anæsthetic without the presence of another professional man, especially in case of female, as the effect of the drug often gives such a peculiar strained sensation to the patient, as some one insulted her immorally while under the influence of the drug."

Death in the Jam Pot.—A correspondent of the *British Medical Journal*, in calling the attention to a danger that attends the use of glass jars for holding a jam, writes: "Twice within the last two months have my children found pieces of glass in their mouths, and fortunately got it out again; one piece was half an inch long and very sharp. If this has happened twice in so short a time to me, how often must it occur to others, and how often must the children swallow a piece without knowing it? It makes one look back to the obscure case of enteritis one has met with, which could not be accounted for as to the cause. The jams my children had were from different makers, so the accident must not be uncommon."

What Did Shakespeare Die of?—There is a tradition of very respectable antiquity that he died of a fever contracted through going on a drinking bout with Ben Jonson and other boon companions. Mr. J. F. Nisbet, in his new work, "The Insanity of Genius," discusses the question from an entirely new point of view, that of pathology. In the author's opinion, Shakespeare died of paralysis, or some disease akin to paralysis. The signature to the will, he holds, affords strong presumption of this, but he has also other facts to adduce in support of this theory. In 1657, Dr. Hall's medical cure-book was published by James Cooke, "A practitioner in physick and chirurgery." Dr. Hall, as is well known, was Shakespeare's son-in-law, and his book proves beyond doubt that nervous disease existed in Shakespeare's family, a fact which Mr. Nisbet considers accounts for the short average duration of the lives of its members, and the speedy extinction of the line of Shakespeare's direct descendants.—*Medical Times.*

Catelectrism is a name proposed by a correspondent of the *Sun* for execution by electricity. He says that it is etymologically correct, terse, clear, precise, and one that can be readily adopted by any language. The verb would be catelectrize, and the correct accessory forms catelectrist, catelectric, etc.

The Electric Fan in the Reduction of High Temperature.—An editorial writer in the Texas *Health Journal* suggests that the electric fan may be pressed into service in the lowering of high temperature in fever. He says that he does not know of an actual test being made of the power of the electric fan, or wheel, in reducing the temperature in fevers, but its great force in cooling the surface of the body leads him to believe that it will act very similar to the cold bath, as used in many forms of fever. It would seem to be a simple matter to determine whether or not the electric fan will lower high temperature. But whether it will or not, it certainly would be an excellent sanitary measure in typhoid and other slow cases of fever, causing a constant renewal of the atmosphere, driving out the contaminated air of the sick-room, and forcing in fresh air to take its

place. The fan would also blow away all mosquitoes and flies from the neighborhood of the patient's bed.

A Case of Trichinosis from eating raw ham occurred in Hoboken last week. The patient was a young woman of nineteen.

Vacancies for Medical Men in the State Asylums.—It is stated that there are about sixty physicians, including nine women, employed in the ten insane asylums, now called State hospitals. Since these positions were thrown open to competition, in November last, two competitive examinations have been held. The number of competitors in these examinations has been small, and the eligible appointment list resulting has been exhausted. The salaries paid junior assistant physicians range from $800 to $1,600 per annum, including board. Candidates must be residents of the State, and have had one year's experience in a hospital, or three years' experience in the general practice of medicine. Promotions are made without examination between the grades of junior and first assistant physicians. The absence of applicants for these positions shows, we think, not that there are not plenty of young medical men who want such places, but rather that the qualification of a year's work in a hospital is much rarer than it should be.

Medical Students in Europe.—The number of young men who go in for university training increases yearly in every country of Europe, though the relative increase is notably affected by the length of the course of studies imposed. The tendency is less marked in France and Germany, on account probably of the preponderance of the military spirit and the need for a supply of officers. Leaving on one side the students of theology, and taking 100,000 inhabitants as a standard of comparison, we find 82.3 students in Belgium, 76.6 in Norway, 57.3 in Sweden, 55.9 in Austria, 51 3 in Italy, 50.4 in Switzerland, 48.1 in Germany, 45.4 in Holland, 42.6 in France, and—least as well as last—9.9 in Russia. Taking the same basis of comparison, there are 14.4 medical students in France and Germany, 23.8 in Austria, 26.7 in Holland, 24.2 in Belgium, and 20.6 in Italy. The increase, compared with the proportion during the seventeenth century, varies from 148 per cent. in Germany to 214 per cent. in Norway.—*Medical Press.*

A Blow at Vegetarianism.—According to Raymond, Gubler, and E. Monin, a vegetable diet tends to produce atheroma of the arteries.

A Professional Faster named Jacques has broken the world's record and fasted for fifty days, taking only water and a certain herbal powder. His weight diminished from one hundred and forty-two to one hundred and fourteen pounds. We are told also by cable that Dr. Henrik G. Peterson, a Norwegian, practising in America, tested the strength of the fasting man's grip on the dynamometer before he partook of food, and found that, it is said, it registered seventy-four pounds.

The Mississippi Medical Monthly is the name of a new journal edited by Drs. N. L. Clarke and H. H. Haralson, and published monthly at Meridian, Miss.

The Koch Institute for Infective Diseases.—This institution has at last been opened with due solemnity, with prayer and addresses by the clergy. There are already six cases of phthisis domiciled in it. Professor Koch's assistants are Staff-surgeons Pfeiffer and Behring, and Dr. Frosch, from the Hygienic Institute, and Dr. Petruschky, of Königsberg. Professor Brieger is at the head of the hospital department.

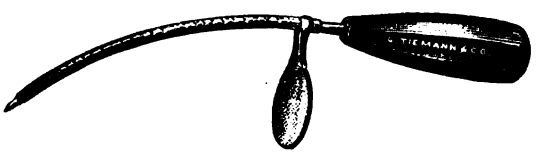
No More Artificial Teeth.—Old age is robbed of half its terrors and much of its deformity by the brilliant discovery of a Moscow dentist, Dr. Zuamensky, who, according to a possibly over-sanguine Russian contemporary, has delighted the civilized world by his skill in making teeth grow in toothless gums. After experimenting on dogs, he tried the effects of his method in human beings, and the success was complete. The teeth are made of gutta-percha, porcelain, or metal, as may be desired. The root of the false tooth has some holes bored in it. Holes are now bored into the jaw, and into the hole the false tooth is stuck as is a nail in wood. In a short time a tender growth starts up the cavity of the false tooth, and this growth hardening, the tooth becomes fixed in position. These new teeth can, according to the inventor, be placed in the alveolus of a natural tooth, and thus, when a diseased tooth is pulled out a metal or porcelain substitute can be inserted in its place, without incurring any risk of transferring disease, as happened in Hunter's days, when the apparently sound teeth of poor persons when transplanted, not infrequently conveyed disease. There are several minor inconsistencies in this statement, but it would be ungracious to look such a noble gift in the mouth, especially as, according to dentists of authority, our race is destined eventually to become edentulous.—*Medical Press.*

New Instruments.

A NEW LACHRYMAL DRILL.

By WILLIAM HOLLAND WILMER, M.D.,
WASHINGTON, D.C.

In answer to a letter written in May of this year, Tiemann & Co. replied, "There is no drill made for the lachrymal canal, as far as we know, and we have looked over many books. . . ." This reply was coupled with the offer to make a drill according to the writer's idea. Such an instrument has been made by that firm, and is presented in the accompanying cut.



The cut is two-thirds of the actual size. Attached to the tube, which has the curve of a Theobald's probe, is a flat supporting handle, serrated on both sides to prevent slipping. The octagonal handle for rotating the flat and sharp drill-point is of hard rubber, vulcanized to the shaft. The shaft is made of strong spiral steel, which readily takes the shape of, and freely rotates within, the cannula. The drill proper can readily be removed from the protecting tube for the purpose of cleansing.

The cases—bony closure of the lachrymal canal—for which the drill is adapted, are, of course, infrequent, but they do occur sufficiently often to render this instrument a useful addition to the armamentarium of the oculist.

The patient for whose relief this drill was designed gave

a history of repeated lachrymal abscesses for nearly two years. There was also a fistula at the site of a former incision. By the use of the drill, under chloroform, and the temporary after-use of a Princess style, syringing with an antiseptic solution, and by the periodical passage of a large probe, the young man has been able to resume his vocation (that of an artist), which had been abandoned at the onset of his lachrymal trouble.

BOOKS RECEIVED.

REGIONAL ANATOMY IN ITS RELATION TO MEDICINE AND SURGERY. By George McClellan, M.D. In two volumes, quarto, illustrated. Volume I., 436 pages. J. B. Lippincott Company, Philadelphia, Pa.

DISEASES OF THE NASAL ORGANS AND NASO-PHARYNX. By Whitfield Ward, M.D. 12mo, 165 pages. Illustrated. G. P. Putnam's Sons, New York.

A SHORT MANUAL OF ANALYTICAL CHEMISTRY. By John Muter, M.A. Edited by Claud C. Hamilton, M.D. 8vo, 205 pages. Illustrated. P. Blakiston, Son & Co., Philadelphia, Pa.

A MANUAL OF PRACTICAL HYGIENE. By Edmund A. Parkes, M.D. Eighth Edition. Edited by J. Lane Notter, M.D. 8vo, 769 pages. Illustrated. P. Blakiston, Son & Co., Philadelphia, Pa.

SCIENTIFIC MEDICINE IN ITS RELATIONS TO HOMŒOPATHY. By Theodor Bakody, M.D. Translated by Rudolph F. Bauer, M.D. 8vo, 60 pages. Boericke & Tafel, Philadelphia, Pa.

A MANUAL OF DISEASES OF THE NOSE AND THROAT By P. S. Hutchinson, M.R.C.S. 12mo., 127 pages. Illustrated. P. Blakiston, Son & Co., Philadelphia, Pa.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending September 19, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	79	19
Scarlet fever	61	11
Cerebro-spinal meningitis	2	4
Measles	38	4
Diphtheria	69	17
Small-pox	1	0
Varicella	2	0
Pertussis	1	5
Erysipelas	2	0
Mumps	0	0
Rötheln	0	0

Dry Gangrene in a Child Fourteen Months Old.— Dr. F. W. Monsell, of Port Pirie, reports in the *Australasian Medical Gazette*, vol. x., No. 5, 1891, a case similar to one reported in these columns by Dr. W. H. Hubbard, of Marion, Ind., about a year ago. The patient was a healthy girl, fourteen months old, of healthy parentage. One day shortly after having had an attack of vomiting, caused by the swallowing of some indigestible substance, there was noticed a little speck on the skin over the gluteus maximus. This was thought to be a spider-bite, as a black spider had been seen on the child's clothes that day. A doctor who saw the case ordered the spot to be poulticed. Three days later Dr. Monsell saw the child and found the skin inflamed with an indurated mass about half the size of a walnut, in the centre of which was a small gangrenous opening. This rapidly extended until it reached the margin of the labia, having an area of $2\frac{3}{4} \times 2$ inches. A tonic and stimulant treatment was adopted, antiseptic poultices being applied to the affected part. Under this treatment the progress of the disease was seemingly arrested, but soon swelling of several joints took place, purple patches appeared on the extremities, the skin acquired a waxy appearance, and the child died at the end of about two months. After death all the joints appeared to be dislocated, the skin over the spine and in other parts was purple, and the body was very limp, no rigor mortis having set in. The author believed that the spider-bite was the cause of the trouble.

Stamping out Small-pox.—Dr. J. M. Boyles, City Health Officer of Houston, Tex., relates in the *Abstract of Sanitary Report*, of January 26, 1891, an instructive history of an epidemic of small-pox in that city. On December 4, 1890, a circus arrived in Houston with a case of small-pox which was kept concealed until after the circus had left several days. On December 21st, small-pox made its appearance in several parts of the city simultaneously—in hotels, boarding-houses, etc. In less than five days there were 41 cases, mostly white. How many persons had been exposed at this time could not be estimated. At the suggestion of the Health Officer the City Council made vaccination compulsory. The house-to-house plan was adopted. Of the 21,000 persons vaccinated there was no bad effect—no amputations or deaths. Some suffered several weeks with sore arms. In forty days Dr. Boyles succeeded in getting the disease under control. Of the 349 cases no one contracted the disease that had been vaccinated under eleven years. Some vaccinated forty-nine years ago had varioloid, but of such a mild type it was not necessary to go to bed. There were 120 in the quarantine hospital that had been vaccinated and were exposed who did not take the disease.

A Cold Greenhouse.—One of the latest inventions in medicine is the use of cold greenhouses in tropical countries as a means of combating yellow fever. This disease can be conquered if one removes to those elevated regions in which oaks will grow. This fact recently inspired a celebrated Cuban physician with the idea of reducing the temperature of sick-rooms by artificial means, and wonderful cures resulted. Now it is proposed that in districts liable to the epidemic, each town shall erect a great glass house in which plants of cold and temperate regions may be grown, the temperature being artificially cooled instead of heated, as in our greenhouses, and that they shall be devoted to the treatment of patients suffering from the fever.

Rather Bad for the Eyes.—An esteemed correspondent from another State sends us the following prescription, which was written by a licensed physician, and presented to a druggist to be filled:

℞. Hyd. bichlor ..... gr. viij.
Mur. cocaine ..... gr. xxv.
Aquæ camph ..... q. s. ad. ℥j.
M. S.: Shake, and put five or six drops in the eyes every two or three hours, when in pain.

The writer asks what effect such a mixture would have on the eye were the directions carried out, and also whether or not the ingredients of the preparation are compatible. The mixture would have a thick white precipitate, which would probably cause inquiries to be made, thereby perhaps saving the patient from a calamity.

Nocturnal Enuresis in Mouth-Breathers.—Dr. Otto Koerner says, that a very common cause of enuresis in children is the habit of mouth-breathing, and reports some cases in support of this view in the *Centralblatt für Klinische Medicin*, for June 6, 1891. In every case of wetting of the bed by children the physician, he says, ought to examine the little patient carefully to see whether there is any obstruction in the upper respiratory passages, and even if none be found the child should be observed when sleeping to see if it is not breathing through the mouth.

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Congress of American Physicians and Surgeons.

Second Triennial Meeting, held at Washington, D. C., September 22, 23, 24, and 25, 1891.

(Continued from p. 370.)

THIRD DAY, THURSDAY, SEPTEMBER 24TH.

THE topic for the afternoon discussion was "Fibroid Processes (Chronic Interstitial Inflammation, Scleroses); their Pathology and Etiology, with Special Reference to the Influence of Diathesis and Heredity."

The discussion was opened by DR. ALFRED L. LOOMIS, of New York.

His paper dealt so fully with the subject that only the prominent features can be given.

In entering upon the study of the etiology and pathogenesis of fibroid processes it was well to state the objects of such study, viz.: 1. A classification, upon a pathological basis, of the fibroid developments. 2. The determination of the point at which the physical forces are productive of the first organic change in the series which terminates in fibrosis. 3. The determination of the consecutive order of changes in such arteries. 4. An estimation of the dynamic relations of diathesis to both the causes and the established processes.

There are two forms: 1, the hyperplastic (either atrophic or hypertrophic); and, 2, the inflammatory. In the pathogenesis of the first form, may be considered: 1, diminished nutritive supply, not reaching the point of necrosis; 2, parenchymatous atrophy; 3, nuclear proliferation; 4, connective tissue hyperplasia, or, in the hypertrophic variety, simple fibrous hyperplasia under direct stimulation. In the inflammatory form: 1, parenchymatous degeneration or necrosis; 2, constitutional influences producing lycocytosis; 3, positive chemotaxis, causing cellular infiltration, followed by organization.

The general etiology of fibroid processes may be briefly stated as follows: 1, all direct stimulants to fibrous growths; 2, all conditions inducing a limited decrease in the nutritive supply, viz., arterial fibrosis, embolism, pressure on vessels, vaso motor changes, etc.; 3, all conditions and elements which induce through perverted nutrition, either degeneration or necrosis. Under this last head may be included mechanical strain, pressure, defective nutritive supply, or tissue inactivity, and, most important, all tonic and trophic influences.

Diathesis determines the nature of the primary and predominant action, which will follow any given stimulant or irritant, when more than one is possible. It also modifies the ratio between an established process and its cause.

In arterial fibrosis, the following factors combine to produce necrosis and inflammation: 1, cellular toxæmia; 2, mechanical strain, possibly during hypertrophy of the muscular coat, but more probably during the muscular degeneration and relaxation which follows or accompanies the hypertrophy; 3, anæmia, from contraction of, and pressure on, the *vasa vasorum*.

In studying cardiac disease one is struck with the frequency with which arterial fibrosis is essentially localized in the coronary vessels, and for this there must be some special cause. Coronary fibrosis, the author thinks, may be, 1, local and purely traumatic; 2, part of a general change; 3, primarily traumatic, with a tonic exacerbation. We may accept, as more or less potent causes of cardiac fibrosis, 1, all tonic blood-elements and nervous atrophic influences which tend to prevent its parenchymatous nutrition by their action upon the assimilating power of its protoplasmic elements; 2, localized mechanical interference with the nutritive supply, as from changes in the arterioles; 3, traumatism, either of strain or compression.

In hepatic fibrosis we have, 1, cases in which the tissue necrosis is recognized as the primary change; and, 2, cases in which round-cell infiltration is the first appreciable change, and which are variously regarded as inflammatory or undetermined. The writer concludes that all hepatic fibroid processes are consequences of tissue injury, from three sets of commingled causes, viz.: 1, direct toxic action of the hepatic tissue elements, of which syphilis is a pure example; 2, mechanical injury through obstructed vessels and canals; 3, degenerative changes ending in necrosis, induced by excessive functional activity or special stimulation.

The multiple origin of fibroid processes becomes very prominent in renal fibrosis, and here it becomes necessary to classify the etiological elements into: 1, such as depend upon epithelial activity for their excretion; and, 2, those demanding an excess of blood-supply in their elimination. Our most powerful stimulants to renal excretion give a soft, full pulse, and low tension. We may say, therefore, that those elements which are eliminated in solution under high tension, and increase the flow of blood, are productive primarily of arterial and interstitial fibrosis, through, 1, mechanical strain of the vessels incident to their dilated condition, coincident with the systemic contraction; and, 2, by interstitial compression, and later, malnutrition from diseased vessels. The epithelial cells suffer secondarily, and their changes speedily reach necrosis under the combined conditions of forced activity, malnutrition, and compression. It is an excellent illustration of the influence of heredity and diathesis.

We thus find in the kidney, as in other organs, that perversion of tissue nutrition is the first organic change in our fibrosis. This perversion is induced, 1, by cases of functional activity; 2, by the mechanical conditions developed, either physiological or pathological; and, 3, by direct tonic action upon the recent parenchyma.

In conclusion, the author said that it had been his endeavor to base all his arguments upon the generally accepted dicta of recognized authorities. He only claimed to have partially filled in some wide breaks in the fibroid processes.

DR. WILLIAM OSLER, of Baltimore, continued the discussion. His remarks were confined chiefly to a consideration of certain points of interest connected with interstitial processes in the central nervous system. The subject was a most difficult and perplexing one.

The connective tissue of the central nervous system is of two kinds: 1, neuroglia, special and peculiar, derived from the ectoderm, with distinct morphological and chemical characters; 2, that derived from the mesoderm, which is identical with the ordinary collaginous fibrous tissue of the body. Both play important parts in the indurative processes in the brain and cord. Sclerosis might be conveniently divided into: 1, the degenerative; 2, the inflammatory; and, 3, the developmental. The degenerative scleroses comprise the largest and most important division. They may be subdivided into: *a*, the common atrophic secondary degenerations; *b*, toxic

forms, under which may be placed the scleroses from lead and ergot, and most important of all, the posterior scleroses due, in a very large proportion of cases, to the virus of syphilis; *c*, the scleroses associated with changes in the small arteries and capillaries. As a senile process, a sclerotic atrophy of the convolutions is one of the most common of the cerebral lesions.

The inflammatory scleroses form a less important group. They might be divided into: 1. The secondary forms which develop in consequence of the reactive inflammation occurring about tumors, hemorrhages, foreign bodies, and in similar conditions. Histologically, they are pure mesodermic scleroses, and have a fibrous matrix similar to that which develops under like conditions in other parts of the body. 2. The sclerosis which occurs after a primary encephalitis or meningo-encephalitis. It is an acute process, occurring in the central nervous system as a result of the action of the poisons of specific fevers, and possibly also of syphilis. They terminate in a more or less extensive induration. In infantile hemiplegia, the onset is marked by severe constitutional disturbance, indicating an inflammatory process. The change is cortical and of variable extent. It is a frequent form of cerebral sclerosis, and may involve a few convolutions, or those of an entire lobe. 3. Developmental sclerosis forms a group to which, of late, especial attention has been paid. The diffused cortical sclerosis of children is the form which is best known, and which is met with as a congenital condition, and later in life, gradually producing atrophy of one hemisphere. Another form is the well-known overgrowth about the central canal, which constitutes the anatomical basis in syringo-myelia, the essential factor in which is the enormous proliferation of the neuroglia of the central gray matter.

The questions for discussion and for study hereafter, are: 1. What is the relation of the vascular change to the degenerative sclerosis? how far histologically are they mesodermal or ectodermal; or are they mixed, containing both neuroglia and collaginous connective tissue? 2. In the lobar scleroses of children, what is the nature of the primary affection; is it inflammatory, or is it essentially a lesion in the vessels? 3. In the developmental sclerosis, can we recognize a purely ectodermal form?

Chronic Fibroid Processes of the Spinal Cord was the subject of a paper read by DR. C. L. DANA. He divided into, 1, primarily degenerative; 2, secondarily degenerative; 3, reparative and inflammatory. The scleroses included under the first head were primarily the result of the destruction of cells and fibres, and as examples of this class may be mentioned locomotor ataxia, lateral sclerosis, multiple sclerosis, and progressive muscular atrophy. The causes of the destructive process already mentioned are, either toxic substances, or the nutritive disturbance resulting from infection, and physical strain. These scleroses were not related to any diathesis. The French pathologists have shown the scleroses of the second class to be in all probability a proliferation of neuroglia, or a gliosis; the third class embrace those forms commonly known as chronic myelitis, diffuse myelitis, or transverse myelitis. They are a combination of simple necrotic, inflammatory, and secondary degenerative processes.

DR. WILLIAM T. COUNCILMAN continued the discussion, taking up the pathological anatomy. When a little pus is introduced, for example, into the liver, an area of necrosis occurs, and this is followed by an escape of leucocytes into the necrotic tissue. Much of the confusion which has arisen about this subject is due to confounding the leucocytes with a later stage in which there is a round-cell infiltration, and then the formation of new connective tissue. In the liver of typhoid fever small areas of necrosis are scattered all over its surface. It is important to remember that there is no known way of stimulating the growth of connective tissue; the tendency to growth and multiplication is always present, but the growth will not take place until the normal opposition to it is removed. We must always distinguish between an acute process causing a sudden death of the cells, and a slower and more diffused process with extensive infiltration of round cells. In general arterial sclerosis, we find a primary degeneration of the muscular coat, and the growth of connective tissue in the artery occurs as a consequence of this lesion in the muscular coat. The nature of the process depends upon the extent of the primary necrosis, and the character of the tissues in which it occurs.

DR. LOOMIS referred in his paper to experiments on rabbits, in which a constant high arterial tension had been maintained by the administration of digitalis, and in which an endarteritis was developed. There was abundant clinical evidence to show that high arterial tension did not give rise to endarteritis. It was possible that in these experiments the digitalis itself may have produced the endarteritis.

Dr. Loomis here explained that he had expressly stated that the experiments were not entirely conclusive, as the result might have been partly due to the direct toxic action of the digitalis.

The time for adjournment having arrived, the President, DR. S. WEIR MITCHELL, said that he had very carefully watched the work of the various component societies of the Congress, and had been much impressed with the earnestness and brilliancy which had been displayed.

President's Address.—DR. S. WEIR MITCHELL, President of the Congress, delivered his address on the evening of Wednesday, September 23d. In speaking of the causes which led up to the organization of the Congress, the President spoke of the fact that specialism in medicine was of recent birth. He could remember when the older physicians refused to recognize socially a man who devoted himself to the eye alone. To day we can only look back with wonder at such narrowness. Cornelius Agnew once said that all would be better for an hour or two a day in a general hospital ward. It would be well for the young men of the profession who now select their specialty before they are weaned from the breast of their Alma Mater, to bear this saying in mind. Referring to the advantages and disadvantages of so much medical specialism, the speaker said that he was of the opinion that the gynecologists too often resorted to but one drug, and that steel in the trenchant form, when patient medical treatment might have preserved to the patients the inestimable possibilities of the wife and the mother. On the other hand, the general practitioner often sees the beginnings of disease, and does not correctly interpret them, or early enough ask counsel. Not only is the organization or this Congress exceptional, but it is one of national character, a collection of the ablest men in the American profession. There is much for such a body to do. Our climatology has yet to be investigated, and it is to be remembered that in no other country is there an extent of territory covered by weather reports which is such as to make its results medically available in relation to disease. As an example of this one need only recall Wharton Sinkler's interesting proof that the paralysis of childhood—acute anterior myelitis—is a disease of the summer months; Morris Lewis's masterly paper on "The Relation of Acute Rheumatism to the Storm Centres;" and his own study of "The Relation of Chorea to the Weather Curves," and of "Traumatic Neuralgia to Storms." We have also as yet to investigate our countless mineral springs. The swift social changes of this age and country await our future study.

Turning back from this bewildering view, let us catch a glimpse of some of the processes which have gone to the final making up of what is so well represented by this Congress—"Precision in Medicine."

Our precise methods of to-day require much time, and it certainly cannot be said that our instruments are labor-saving. A post-mortem section used to take us an hour or more; now, it goes on for weeks, in some shape, until

the last staining is complete, the last section studied, the last analysis made. While instruments of precision assist us greatly, they may prove stumbling-blocks to the thoughtless, or lazy, showing that it is necessary for men to always keep ahead of their instrumental aids.

The latter part of the sixteenth and the first half of the seventeenth centuries saw the birth era of instrumental accuracy in medicine, but many a day went by before the infant attained to useful manhood. The crude air-thermometer of Galileo was the beginning from which our modern instruments sprung, but his instrument was so inaccurate that he seems not to have valued it highly. In 1701, Newton marked the blood temperature at 12° of his scale, using linseed oil as the fluid in his thermometer. A little later, after several alterations of his scale, Daniel Fahrenheit at last set 96° as the blood heat; and here we first come upon the use of armpit temperatures.

The speaker next sketched the history of our knowledge of the frequency of the pulse, and of its relations to disease, dwelling particularly on the interesting development of methods of precision in studying the pulses, assisted by Galileo's pendulum or "pusilogon." In 1707, Sir John Floyer published a remarkable book, entitled the "Physician's Pulse Watch" The book also contains various observations on the relations of the pulse to age, exercise, sleep, and to various diseased conditions. His observations were, for the most part, thoughtfully carried out, and he evidently knew the world, for he predicts that, alas, too truly, his new methods will be sneered at and neglected. As late as 1768, we find Fouquet qualifying all pulse numerations as a mere useless curiosity, and sphygmometric instruments as idle toys. In 1796, Falconer says, "Floyer's methods were unused until now." The doctrine of the specific pulses, or a pulse for every malady, appears in countless volumes and survived up to the year 1827. This tale of the growth of precision in medicine is not without its moral. In every modern century were men who sought to secure it.

In conclusion, the speaker said that there must be many in the audience who knew that, apart from large human experience, and the material compensations of professional success, there was that in the mere pursuit of truth which mysteriously rewards from day to day. He was glad to think that this incessant every-day work is a talisman of content, a fact which none knew better than those to whom he now said his thanks and his farewell.

AMERICAN SURGICAL ASSOCIATION.

Twelfth Annual Meeting, held in the Grand Army Building, Washington, D. C., September 22, 23, 24, and 25, 1891.

(Continued from p. 372.)

THIRD DAY, THURSDAY, SEPTEMBER 24TH.

Recurrence of Cancer of the Breast.—DR. FREDERICK S. DENNIS, of New York, opened the discussion on this subject. Only those cases were included in which a microscopical examination of the tumor has been made. The necessity of an investigation of carcinoma of the breast is shown by the fact that in England alone seven thousand deaths occur annually from carcinoma, and a large proportion of these are cancer of the breast. It has been demonstrated that cancer is a disease which is slowly increasing in civilized nations. A study of the subject shows that there are seventy-five per cent. of recurrences. These include cases of incomplete operation, *i.e.*, when the axilla has not been opened. In the primary growth at the beginning, the neoplasm is of local origin. Early and complete removal of the growth relieves the local disease, but the operation does not relieve the predisposition, or susceptibility, or the capability for the recurrence of the disease. It is possible that the capability is limited to certain extent.

The recurrence of carcinoma of the breast is influenced, first, by the period of time from the appearance of the growth to the date of the operation. In the cases of the author in which the cure had continued for three years of more, the tumors were removed on an average six months from the date of their first recognition in the breast. In all the cases of permanent cure, the axillary glands were not invaded.

Recurrence is influenced, second, by the extent to which infiltration has taken place by any one or all of the three well-recognized ways of dissemination. When the tumor has existed long enough to show extension in these directions, the growth has been of long duration

Third, recurrence is influenced by the radical character of the operation itself. Complete removal of the breast is essential. The method of Mr. Stiles, of Edinburgh, by which the tumor after removal is treated with dilute nitric acid, in order to show whether or not the incisions have been made in healthy structures, and all the diseased structure has been removed, was described. The reported mortality of the operation is high, but in the author's seventy-one cases there had been but one death, and that was from continued bleeding in hæmophilia. In operation, not only the breast, but the axillary glands in most cases.

Fourth, recurrence is influenced by the histological character of the carcinoma itself. Where the structure differs slightly from the normal the clinical history is favorable. In none of these cases was there recurrence. Where there is great departure from the normal type, the clinical history is unfavorable. The more embryonic the structure the greater the chance of recurrence.

Fifth, the recurrence is influenced by the simultaneity in both breasts. This occurs in five per cent. of the cases. These patients are very liable to recurrence.

Sixth, recurrence is influenced by the personal factor of the individual, such as age, sex, marriage, fecundity, sterility, pregnancy, traumatism, heredity, menstruation, metastasis, mental condition, locality, etc.

Seventy-one cases of carcinoma of breast which had been operated on were referred to. In one there had been death from hæmophilia. In nearly all the axilla was opened. The operation consisted of excision of the entire breast, with all contiguous skin, the para- and peri-mammary, fatty areolar tissue, the pectoral glands, the pectoral fascia, and also removal of the axillary glands and fatty axillary tissue. In some cases the supra-clavicular glands were removed, and in one case excision of the ribs was done. The percentage of permanent cures amounted to thirty per cent. The author held that with early and radical operation recurrence of carcinoma of the breast will be comparatively rare.

MR. THOMAS BRYANT, of London, believed firmly in the local origin of carcinoma, although we must admit that there may be a predisposition on the part of the patient to the development of the disease. The disease should be treated at an early period, and this brings us to the question of diagnosis. Many cases do not come under observation until the disease is well advanced, because the patient imagines that a disease unassociated with pain cannot be cancer. Where induration appears in a breast during the period of functional activity, there may be some hesitation in the diagnosis; but in some thirty cases of this kind he had recommended immediate operation, and in all the cases the disease was shown to be malignant. In none has recurrence taken place. When the disease has advanced somewhat further, with dimpling and puckering of the skin and some immobility, we may get a good result by making a thorough operation. He had had some cases without recurrence for from five to twenty years. In the more advanced cases the surgeon should limit his operations to those in which there was a reasonable prospect of removing all the diseased structure. He does not remove the axillary glands in every case. If the glands be enlarged or the disease extend upward in that direction, he removes the glands thoroughly. Where the disease is quite local and there is no evidence of axillary involvement, the axilla is not opened. In the

atrophic form of cancer he thought it better not to interfere unless the tumor was giving rise to great inconvenience. Operation in these cases is often followed by a more rapid form of growth. Again, in this form of cancer where the lymphatics can be traced distinctly and the breast has a brawny feel—the lymphatic form of cancer—the surgeon does no good by interference.

Sir William MacCormac, of London, thought that the axilla should be opened in operation for carcinoma of the breast, for two reasons, viz.: An examination of one hundred and seventeen cases of cancer of the breast showed that in all but two there was axillary involvement; and, second, in ninety per cent. of the recurrences the disease appears in the axilla.

Dr. Lewis S. Pilcher, of Brooklyn, thought that the term "recurrence" was not applicable to many of these cases, and that in many the disease was simply a continuance of the former growth. If the case goes one year without the appearance of return of the disease, it may be considered that the disease has been removed, and if it appear later, it can be regarded as a recurrent, a renewed, or a new attack of cancer. In every case of cancer there is a predisposition to the disease, and we should search for some agent to counteract this constitutional predisposition which we can use in addition to operative measures. Arsenic has for many years been used for this purpose. Dr. Wight, of Brooklyn, has suggested the use of carbonate of lime for the same purpose.

Dr. L. McLane Tiffany, of Baltimore, did not think that we could set any limit to the time at which recurrence might take place He had had the disease return eight years after operation. He was a firm believer in the local origin of cancer. The date at which the disease is recognized varies much. In some the disease comes before the surgeon shortly after its commencement, while in others the tumor has reached considerable size. The time at which the disease is discovered by the patient bears no relation to the time of its commencement. Too much stress had not been laid on the necessity of thorough operation. In only two cases out of eighty operations for cancer of the breast had he found the axillary glands not enlarged. The pectoral fascia should be removed, and at times portions of the muscle should be cut away.

Dr. Hingston, of Montreal, believed that cancer was essentially a local disease. If we believe this, operation should be done at as early a date as possible. The glands should be removed not only from the axilla but from its neighborhood, if they are enlarged, but this should not form a necessary part of the first operation. Such a procedure adds greatly to the discomfort and to the danger. Where there is the slightest suspicion of involvement of the glands, they should be removed. If there should be recurrence, the operation should be repeated as often as circumstances seem to warrant.

Dr. Joseph Ransohoff, of Cincinnati, reported thirty cases of removal of the breast for cancer, without a death. He thought that the danger of the operation was not materially increased by opening the axilla.

Dr. C. B. Nancrede, of Ann Arbor, said with reference to the three year limit, that this had been proven to exclude ninety-eight per cent. of the recurrences. It is impossible to tell whether or not the axillary glands are involved without opening the axilla. Unless this is done the majority of the cases will be left unbenefited. He advised that the axilla be opened first, and if the glands could not be removed, to close the wound and not remove the breast.

Dr. J. R. Weist, of Richmond, Ind., had operated fifty-five times for cancer of the breast, and makes it a rule to open the axilla in every case.

Dr. George W. Gay, of Boston, felt that there was no such thing as a local origin of cancer as we have the local origin of a fatty tumor. When it can be shown that a cancer taken out will not return, just as a fatty tumor when removed does not return, then we can prove the local origin of carcinoma.

Dr. Edward M. Moore, of Rochester, always operates in as thorough a manner as possible. He always opens the axilla, and did not think that it added to the risks of the operation. He did not agree with Mr. Bryant in regard to the atrophic cases in old individuals. In these he recommended operation, considering recurrence very improbable. He reported one case living seventeen years after operation, and now seventy-nine years of age.

A Case of Diffuse Fibroma with a Tendency to Intracanalicular Growth of Both Breasts.—Dr. C. B. Porter, of Boston, Mass., reported a case of this nature. Mrs. M——, aged thirty-seven, resident of Nova Scotia, was admitted to the Massachusetts General Hospital. Has had two children, the youngest ten years of age. Three years ago she discovered a hard lump in the right breast which gradually increased in size. Three months later the left breast commenced to enlarge. The breasts continued to slowly enlarge until three months ago, when a rapid increase took place and the breasts soon became burdensome by their size and weight. On examination she was found to be pale, emaciated, and with ovarian facies. Right breast—largest circumference, 38 inches; length from chest-wall to nipple, 17 inches; circumference at base, 23 inches. Left breast—largest circumference, 28 inches; length from chest-wall to nipple, 14 inches; circumference at base, 23 inches. Throughout both breasts were felt movable, hardened masses of irregular outline, varying in size from an orange to a closed fist. It was decided to remove the left breast first. The breast was transfixed at the base with two skewers and constricted below this with a tightly drawn rubber tourniquet. The breast was then removed and but little blood lost. Three weeks later the right breast was removed. Twenty days after the second operation the patient was permitted to leave the hospital to visit friends, but instead she returned to her home, requiring a long sea journey. A week later she developed erysipelas. This had much improved in four days, when she suddenly aborted a five months' fœtus.

The weight of the right breast after removal was forty-three pounds, and that of the left seventeen pounds, a total of sixty pounds. A *résumé* of the reported cases was added.

Dr. J. M. Barton, of Philadelphia, reported a similar case on which he had operated, and in which one breast was involved.

Fourth Day, Friday, September 25th.

The committee to which was referred the suggestions in the President's address, offered the following resolution, which was adopted:

Resolved, That the President appoint a committee, with authority to confer with the friends and admirers of Professor S. D. Gross, and with the profession at large, for the initiation of a movement on the part of the Association, having for its object the erection of a monument to Dr. Gross, in the City of Washington.

As the matter is an important one, the President stated that he would announce the committee in a few days.

Treatment of Fractures Involving the Elbow-joint.—Dr. Lewis A. Stimson, of New York, read a paper with this title. The special interest of the subject arises from the frequency with which fractures of the lower end of the humerus are followed by more or less diminution of the functions of the elbow-joint, and by deformity of the region or of the limb. The paper was devoted mainly to a consideration of the causes of these unfavorable results.

Causes of Limitation of Motion.—Permanent stiffness after simple fracture is commonly due to change in the shape of the articular surfaces or in their relations to one another, that destroys the coincidence of the axis of curvature with that of motion, or to an overgrowth of bone upon the surface of the humerus, arresting the movement

of the olecranon or coronoid process, or to more or less extensive ossification of the ligaments and capsule.

Overgrowth of bone from traumatism is more frequent in the young than in the adult. As limitation of motion may be caused by bony outgrowth from the humerus, itself the result of a persistent displacement of a fragment, or of separation of the periosteum, the most efficient way to prevent it lies in an exact diagnosis and reduction of displacement, and in the avoidance of any subsequent irritation of the periosteum.

Limitation of motion from thickening of the capsule and peri-articular tissues by the products of inflammation is as a rule a temporary condition. In the more permanent form the lesions are more extensive. The soft tissues are torn and a true cicatrix results. The thickened tissue may become ossified in whole or in part. This cause of limitation has been attributed, but improperly so, to prolonged immobilization and has led to the practice of passive motion in the early stages with the object of preventing its occurrence. Observation and experiment has, however, shown that immobilization is not itself a cause of anchylosis but that it is an efficient agent against inflammation, and that passive motion is powerless to prevent anchylosis when conditions contributory thereto are present; passive motion, therefore, is either harmful or useless. The primary cause of the exudation and of the proliferation of connective tissue that are the anatomical obstacles to motion is of course the original traumatism. The secondary cause is the following reaction. The only factor that can be increased or diminished by treatment is the second. That is the inflammatory reaction. Rest is universally admitted to be the best antiphlogistic measure that can be applied to an inflamed joint. An important disadvantage of rest at once suggests itself, namely, that the torn tissues may unite with shortening. So the clinical observation and theoretical considerations indicate that passive motion in the early stage does not avoid this disadvantage but actually increases it. In the present state of our knowledge it seems that a certain amount of limitation is unavoidable. Massage, however, hastens the absorption of exudation and the restoration of mobility, as does also permanent elevation or suspension of the limb. Reunion with shortening may be opposed by change in the attitude of the limb every few days. At a later period passive motion has its value, but in the early stages it is to be avoided. In regard to deformity, reference was made to only one, that commonly known as the "gun-stock" deformity, due to unreduced displacement of the internal or external condyle. In order to avoid this deformity the displacement should be reduced by pressure upon the fragment or by abduction of the extended forearm until its outward deviation is equal to that of its fellow, and immobilization by dressings that will not reproduce the displacement.

Treatment.—The first element in the treatment is the reduction of the displacement. If necessary, an anæsthetic should be employed. In supra-condyloid fractures permanent traction is usually necessary to overcome the displacing action of the flexors and extensors. This can be effected by vertical suspension of the limb, the patient being kept in bed, or by a weight suspended from the upper part of the flexed forearm while the patient is erect. The former method was recommended for the first fortnight of treatment, especially in compound fractures. Suspension is made by strips of adhesive plaster placed along the front and back of the forearm and attached to the support by indiarubber cords or a weight and pulley. In simple fractures the other method may be employed. The limb is encased in plaster-of-Paris with the elbow at a right angle, the wrist being placed in a sling and a weight not exceeding five pounds suspended from the elbow.

In inter-condyloid fractures with marked separation there is no practicable means of surely maintaining reduction, and considersble limitation is to be expected. In these cases a broad or heavy posterior splint, covering about two-thirds of the circumference of the limb, the elbow being at a right angle, was recommended.

In fractures of either condyle the treatment is by a posterior rectangular splint, either of metal or plaster. The forearm has been supported across the chest by a sling at the wrist. In some cases treatment in full extension has been employed. After this method has been employed for the first ten days or a fortnight recourse is had to the position with the elbow at a right angle.

Gentle Massage will Hasten Convalescence.—It may be advisable to change the position of the limb during treatment, and if great limitation is to be expected that attitude should be given to the joint in which, if stiff the usefulness of the limb will be greatest. In supra-condyloid and inter-condyloid fractures the splint should be worn six weeks, and in fractures of the condyles for about four weeks. After removal of the splint, the arm should for a few days be supported in a sling if necessary. Passive motions may at this time be resorted to, to increase the range of motion.

Dr. N. P. Dandridge, of Cincinnati, agreed with what had been said by the reader of the paper, and referred to two cases occurring under his observation. In one case of simple fracture from great violence, in which non-union had occurred, the arm was treated in a position of almost complete extension. The second case was one in which, after fracture at the elbow-joint, a projection of bone pressed upon the median nerve, causing severe pain and atrophy of the muscles in the distribution of the nerve. The case was seen three months after the accident. Removal of the bone was followed by relief of the pain and a gradual restoration of the functions of the muscles.

Dr. R. A. Kinloch, of Charleston, thought that in simple fractures about the elbow, if seen early and the ordinary principles in regard to the treatment of fractures be applied, the result would be good. Probably in a large number of cases we must expect some restriction of movement. The most important element in the treatment is the proper reduction of the fragments. This should be done at once, an anæsthetic being employed if necessary. The proper reduction of the fragments is determined by testing the functions of the joint. The second indication is to retain the fragments in the proper position. If the case is treated with intelligence it makes little difference what way the splint is applied or whether it is treated in flexion. The position is to be determined largely by the peculiarities of the individual case. He was himself inclined to favor the extended position. In regard to passive motion, used early, he thought that it did more harm than good. If the parts have been properly reduced and held in position and there is danger of subsequent trouble passive motion may begin in three or four weeks.

Dr. E. M. Moore, of Rochester, said that in a fracture of the internal condyle the cause of the displacement is the flexor muscles, and to relax these muscles the arm is to be placed in the flexed position. In fractures of the external condyle he had also found this position the preferable one, for when the forearm is flexed the dense fascia on the front of the arm is rendered tense and acts as an efficient splint. He objected to the extended position entirely. He treats all fractures about the elbow-joint with the exception of fractures of the olecranon in the rectangular position for the first ten days or two weeks. Lateral splints are used with the object of pressing the fragments together. After the tenth day the fracture is dressed every other day, the angle of the splint being changed a little each time, so that the arm passes from almost complete flexion to almost complete extension. He had never had the slightest difficulty in any case since adopting this mode of treatment.

Dr. James McCann, of Pittsburg, said that it was not always easy to determine the exact nature of these fractures about the elbow-joint even with the patient under the influence of an anæsthetic. While the patient is

under the anæsthetic the preliminary dressing should be applied. He recommended the use of the internal angular splint, preferably that suggested by Dr. Packard. He did not favor the use of passive motion at an early stage. Passive motion should not be resorted to prior to the twentieth day.

Dr. John B. Roberts, of Philadelphia, thought that the teaching advocated by some of the speakers was to a large extent dangerous and incorrect. That is, that injuries about the elbow-joint should be treated in the flexed position. He believed that, except in unusual cases, these fractures should be treated in the extended position, according to the doctrine advocated by Dr. Allis. In this way the gun-stock deformity is avoided. He now approached fractures of the elbow with the same certainty of getting a good result as he did fractures of the lower end of the radius.

Dr. S. H. Weeks, of Portland, dwelt upon the fact that all authorities, with few exceptions, advised the flexed position in the treatment of fractures about the elbow-joint. Until there was more positive evidence of the value of the extended position he thought it better to continue to treat these fractures in the flexed position. He employed passive motion in a modified way. After two weeks' treatment the splints are removed and the joint moved gently, but not sufficiently to cause pain. This simply alters the relations of the parts without doing any damage.

Dr. L. McLane Tiffany, of Baltimore, thought that as good results were reported from various dissimilar methods of treatment we must conclude that the prognosis of elbow injuries depended more upon the patient than upon the surgeon. Fracture of the elbow is rare in adults and common in children, and in children with reasonably good treatment there should be a good result, and by the time adult age was reached the motion would be almost perfect. In the adult the prognosis is more grave. He had had good results both with the flexed and with the extended position in compound fractures. The secret lies in the relief of tension, irrespective of the apparatus employed. Incision up and down the arm through the strong fascia should be made as freely as may be required.

Retro-peritoneal Tumors.—Dr. Albert Vander Veer, of Albany, read a paper on the "Anatomical Relations, Pathology, Diagnosis, and Treatment of Retro-peritoneal Tumors." As our experience in abdominal surgery increases, we find that there are yet many problems that confront us, and of these problems there are none which requires more careful research and is capable of greater improvement both in operative management and in prognosis than new-growths arising from the retro-peritoneal space. In order to bring this subject more fully to the attention of the Association, the following cases are reported:

Case I.—Miss S——, aged forty-two, consulted the author in March, 1882, on account of a tumor located in the back. This was first noticed fifteen years previously. Examination showed a large tumor attached to the right side of the spine at the level of the first lumbar vertebra. It seemed attached to surrounding tissues, was of a smooth contour and hard to the touch. Operation was advised but declined. The tumor continued to increase in size until November, 1888, when she died from other causes. The autopsy showed the origin of the growth to be the connective tissue about the right kidney. It was encapsulated and could have been easily removed. It weighed eight pounds. The microscope revealed the presence of fat and myxomatous tissue with an abundant small round-cell infiltration.

Case II.—Mr. V——, aged forty-one, married, was first seen May 28, 1889. Five years ago strained his back. The pain following this has not been relieved by any treatment. Three months ago he became worse, the abdomen began to enlarge. The pain was more severe. He lost appetite and flesh. The ankles became œdematous and a distressing cough developed. The urine was scanty and high-colored but free from albumin and casts. The abdomen was more prominent on the right side. Fluctuation could not be elicited but palpation gave an impression similar to that of a lipomatous tumor. On the right side there was flatness from the nipple to the crest of the ilium, with the exception of a narrow space along the border of the ribs where there was a zone of resonance. The probability of the growth arising from the kidney was strong and an exploratory abdominal section advised. This was done June 1, 1889, an incision five inches long being made over the external border of the right rectus muscle. The growth was reached and the capsule divided, but from its attachments it seemed futile to attempt its removal. The patient recovered from the operation and for a considerable period was relieved of pain, the growth continued to increase in size, and the patient died October 21, 1889. The tumor, which weighed fifty-six pounds, originated behind the peritoneum and was attached to the right kidney. The microscope showed it to be an adipose tumor presenting a condition of myxo-sarcoma with sarcomatous infiltration.

Case III.—Mr. N——, aged thirty-nine, a brass-worker by occupation, began to have vague abdominal symptoms late in the year 1888, with failure of flesh and strength. In June, 1889, he developed jaundice, and a tumor was found in the left hypochondriac region and lumbar region. This was as large as a child's head. An exploratory operation was advised but refused. It was believed that the growth was connected with the left kidney. The tumor continued to grow, and in November, 1889, the patient died. The tumor was found to have sprung from the region of the left suprarenal capsule and involved it. It also surrounded the kidney. It weighed six and one-eighth pounds. The microscope showed an appearance similar to that in Case II., but with a greater preponderance of sarcomatous and myxomatous elements.

A careful study of the reported cases and of the literature of the subject impresses one with the belief that the most frequent origin of these growths is in the connective tissue of the capsule of the kidney, and that the next most frequent seat is the suprarenal capsule. None of these tumors can be said to be absolutely benign, even those which are made up entirely of histological elements, such as lipoma, fibroma, or myoma, while they show no great tendency to recurrence after complete removal, yet, from the great size to which they develop and their tendency to undergo degenerative changes, they cannot be classed as innocent growths.

In many of the reported cases the origin is not stated, and indeed it would, from the subsequent changes in anatomical relations, seem quite impossible to determine the exact origin of many of the large retro-peritoneal growths. They almost always present themselves in the line of least resistance, that is, anteriorly. Careful study of these tumors show them to be of a mixed variety, containing both the elements of the lipoma and myxoma tissues, which are histologically very closely associated. Fat is developed from embryonal mucin, and in post-fœtal life occupies those spaces in the economy which still later in the fœtus is of myxomatous elements. Doubtless many of these growths arise under suitable conditions from congenital neoplasms. These growths often become cystic, and reach immense proportions. They often present a numerous round-celled infiltration pointing to a sarcomatous element. Sarcoma, either in its typical form or in combination with other tissues, often occurs.

Diagnosis.—There is not a single symptom that is pathogenic, and the diagnosis is more dependent upon the process of exclusion. Tumors of the other abdominal and pelvic organs as well as aneurisms and tumors of the abdominal wall must be excluded. As already stated many of these tumors have their origin in the capsule of the kidney or the connective tissue surrounding it. These

present in their earlier stages at least physical signs differing in no respect from tumors of the nephritic parenchyma. In none of the cases reported has renal hemorrhage or albuminuria, with or without casts, occurred, conditions which are the rule with tumors of the parenchyma of the kidney. A valuable adjunct in the diagnosis consists in noting the relation of the tumor to the intestinal tube as shown by the insufflation of hydrogen gas.

Prognosis.—Without operative interference there is but one termination. The rapidity with which the fatal result is reached varies with the character of the growth. The mean duration of life, after the discovery of the tumor, is about nine months. Operative treatment offers much promise. The immediate mortality of the operation is great, yet, from the hopelessness of the condition, it is to be urged with great earnestness.

Treatment.—In operations for the removal of retro-peritoneal growths, the choice of incision will usually fall in the line of the linea semilunaris. By the separation of the peritoneum from the internal border of the tumor, it may be attached to the internal border of the abdominal wound, making the whole field of operation extra-peritoneal. The incision of the posterior fold of the peritoneum should be external to the attachment of the mesentery of the colon, although not absolutely necessary. In the removal of the growth by enucleation care should be taken to determine the source of the blood supply and the relations of the great vessels. There are likely to be large thin-walled veins deep in the wound, requiring ligature. At times it will be found necessary to remove the kidney with the tumor, as in all abdominal work the operator should be prepared for any and every complication. After enucleation the cavity must be thoroughly drained. The after-treatment is the same as in all other severe abdominal sections. Like all other conditions in surgery, there is certainly a better understanding of these cases going on. A more correct and early diagnosis, as is the case in all that pertains to medicine and surgery, will surely bring a larger percentage of recoveries. These are purely surgical cases— no medicines, no mineral waters or baths, electricity, or other lines of therapeutics having, as yet, been of any service.

To the paper was appended a complete bibliography of retro-peritoneal new-growths.

Bronchotomy through the Chest-walls for Foreign Bodies Impacted in the Bronchus.—Dr. DeForest Willard, of Philadelphia, read a paper on intra-thoracic surgery. He gave the results of a number of experiments on dogs in which an opening was made in the chest-walls, one or more ribs excised, and the bronchus thus reached either anteriorly or posteriorly. The operations were all fatal. The following conclusions were presented: 1. In dogs the bronchus can be reached either anteriorly or posteriorly through the chest-walls, but the anatomical position is in such close proximity to large and important structures that safe incision is a matter of extreme difficulty and danger. 2. Bronchotomy through the walls of the thorax is an operation attended with great shock from collapse of the lungs, and until the technique is further advanced is liable to result in immediate death. 3. Collapse of the lung is more serious in a healthy organ than in one previously crippled by disease. 4. The serious inherent difficulties are shock, suffocation from lung collapse, enormous risks of hemorrhage from pulmonary vessels, injury of, or interference with, the pneumogastric nerve, great and fatal delays, owing to the exaggerated movement of the lung caused by the excessive dyspnœa. 5. Closure of the bronchial slit is slow and dangerous. To leave it open causes increasing pneumothorax by its valve action, and also permits the entrance of septic air into the pleural cavity. 6. Although a foreign body can be reached by this route yet removal is hazardous. To secure a subsequent complete cure seems in the present state of knowledge very problematical. 7. When the presence of a foreign body in the bronchus is definitely determined, and primary voluntary expulsion has not been accomplished, there is great danger in permitting it to remain, even though it may but partially obstruct the tube. The risks both of immediate and of subsequent inflammation are serious. 8. Low tracheotomy is then advisable when the presence of a foreign body is certain. It adds but little to the risks, and affords easier escape for the object, even when extraction is not feasible. 9. Subsequent dangers arise from severe and prolonged instrumentation, not from tracheotomy. 10. Voluntary expulsion is more probable after than before tracheotomy. 11. Tracheotomy is permissible even after an object has been long in position unless serious lung changes have resulted. 12. The question of tracheotomy will depend largely upon the form, size, and character of the foreign body. 13. The term bronchotomy should be limited to an opening of the bronchus, and should not be employed to designate higher operations. 14. The risks from thoracotomy and bronchotomy following unsuccessful tracheotomy are much greater than the dangers incurred by permitting the foreign body to remain.

Dr. J. R. Weist, of Richmond, said that from a study of one thousand cases in which a foreign body was impacted into a bronchus, he had reached the conclusion that the chances of the patient were better if left alone than if an operation of what was formerly called bronchotomy was done.

Dr. S. H. Weeks, of Portland, thought that in these cases tracheotomy should be performed, as this affords a chance of reaching the foreign body, and also offers a chance for the spontaneous expulsion of the body. It occasionally happens that the body is forced up against the vocal cords and then falls back or else suffocates the patient before relief could be afforded. He reported the case of a child, ten years of age, who had gotten into the trachea a screw-cap that was used to close a pocket-flask. It had been there several days before the patient came under observation. It was decided to open the trachea. This was done and the patient suspended, but the foreign body did not escape. The patient was then placed in the horizontal position and the attempt made to remove the cap with forceps. It could be felt, but not grasped. After working unsuccessfully for some time, the patient was again suspended and the attempt with the forceps renewed, and at once the body was grasped and removed. The patient made a perfect recovery.

Dr. Kingston, of Montreal, reported a case in which he had removed an artificial incisor tooth with its attachments from the trachea, where it had remained for three months. The operation necessitated prolonged manipulation but was followed by no bad results.

Mr. Howard Marsh, of England, thought that on account of the danger of leaving the foreign body in the bronchus, the uncertainty in regard to the possibility of removal until the attempt is made, and the safety of tracheotomy, operation should be performed. The operation should be performed in all these cases, as it gives the patient a chance where otherwise he perhaps has none.

Mr. Arthur Edward Durham, of London, agreed with the author of the paper, that the operation through the chest-wall was a dangerous and doubtful procedure. The more he saw of these cases the more satisfied was he that the proper thing to do, where there is clear evidence that a foreign body is impacted in the bronchus, is to open the trachea, low down, and endeavor to remove the foreign body or to facilitate its spontaneous expulsion. This opinion was the result of considerable experience.

Dr. Louis A. Stimson read a paper on "Old Unreduced Dislocations of the Elbow."

The following papers were read by title: "Fractures Involving the Upper Third of the Femur, Exclusive of the Neck," by Dr. O. H. Allis, of Philadelphia; "Fractures of the Bones which Form the Elbow-joint, and their Treatment," by Dr. Levi C. Lane, of San Francisco; "Hemiplegia with Aphasia, following Ligature of the

Common Carotid Artery," by Dr. J. Ewing Mears, of Philadelphia; "Investigation of Pistol-shot Wounds of the Skull, and their Treatment," by Dr. E. H. Bradford, of Boston; "The Results of Experiments in the Filling of Cavities of Bones following Operations for Caries," by Dr. E. H. Bradford, of Boston.

Election of Officers.—The following were elected officers for the ensuing year: *President*, Dr. Phineas S. Conner, of Cincinnati; *First Vice-President*, Dr. L. McLane Tiffany, of Baltimore; *Second Vice President*, Dr. Levi C. Lane, of San Francisco, Cal.; *Secretary*, Dr. J. R. Weist, of Richmond, Ind.; *Recorder*, Dr. J. Ewing Mears, of Philadelphia; *Treasurer*, Dr. John B. Roberts, of Philadelphia; *Member of Council*, Dr. Claudius H. Mastin, of Mobile.

The committee recommended the following resolution, which was adopted:

Resolved, That the Association hereafter hold each triennial meeting at Washington, and that other annual meetings be held at such time and place as the Association may name.

After extending a vote of thanks to the retiring president, the Association adjourned to meet in Boston, Mass., in June, 1892.

AMERICAN OPHTHALMOLOGICAL SOCIETY.

Twenty-seventh Annual Meeting, held at the Arlington Hotel, Washington, D. C., September 23, 24, and 25, 1891.

FIRST DAY, WEDNESDAY, SEPTEMBER 23D.

HASKET DERBY, M.D., PRESIDENT.

AFTER a brief executive session DR. D. WEBSTER, of New York, reported a series of cases of Cataract Extraction, which will appear in the MEDICAL RECORD.

Occurrence, Prevention, and Management of Prolapse of the Iris in Extraction of Cataract.—DR. H. KNAPP, of New York, read a paper on this subject. From June, 1886, to September, 1891, he had made 564 extractions, of which 53, or 9.5 per cent. were with iridectomy. Of the remaining 509 "simple extractions" 42, or 8.2 per cent., had prolapse of the iris in various degrees. The smaller ones were in the majority, and either disappeared or remained small and did no harm. To prevent prolapse observe the following rules: 1. Make an iridectomy when in the particular case, all points considered, the combined operation offers the better chances for the restoration of sight. 2. Cocainize thoroughly except in old, emaciated people, keeping the eye closed during cocainization. 3. Shape the corneal incision in the classical way, beginning near the horizontal meridian and continuing in the same plane near, never encroaching upon, the limbus. 4. Cleanse the pupil and anterior chamber thoroughly. 5. Open the capsule by one long horizontal incision in the upper part beneath the iris. 6. Avoid prolapse of the vitreous and any rupture of the zonulo-capsular septum of the eye. 7. Carefully reduce the iris. 8. During the first day or two keep the patient as quiet as his general health and reasonable comfort permit. 9. Watch the patient or tie his hands in sleep during the first week. The majority of prolapses are traumatic.

Treatment.—Leave the prolapse alone for at least ten days. It may be cut on the second day, but the results of cutting it from the third to the tenth day have not been favorable—suppuration occurred in one case, and iridocyclitis with sympathetic ophthalmia, in another. The failures of simple extraction have been very rare. The occurrence of prolapse of the iris has been the dark side to this operation. It is hoped that the number of cases in which it occurs will be reduced to a minimum.

Syringing Out of Cortical Matter in Cataract Extraction.—DR. J. A. LIPPINCOTT, of Pittsburg, reported a series of 100 cases in which this procedure had been carried out. The form of operation was a modified Graefe operation with a small preliminary iridectomy. The capsule was freely lacerated, and the cortex removed by lavage. Prolapse of the cornea occurred in four cases. It was quickly reduced by the stream of fluid from the syringe. Among the results there were but two failures, to which should be added one eye lost by suppuration following the preliminary iridectomy. In one case ether was given on account of the extreme restlessness shown by the patient at the preliminary iridectomy, the ether being indicated, not to prevent pain, but to overcome consciousness, since it was not pain but the excitement of fear that made the patient uncontrollable.

DR. HENRY D. NOYES, of New York, wished to remind the Society that prolapse was not confined to simple extraction but occurred after iridectomy, and was there attended with the same harmful consequences, although it was confined to the angles of the wound. The principal causes of prolapse, he believed, were a condition of increased tension of the globe before the operation and subsequent uncontrollable squeezing together of the lids.

Coloboma of the Iris, Polycoria, and Primary Glaucoma.—DR. GEORGE E. DE SCHWEINITZ, of Philadelphia, reported a case of this kind occurring in the left eye of a woman aged fifty-two. The glaucoma ran a subacute course with a number of glaucomatous attacks, in one of which iridectomy was performed. The affected eye had the congenital defects named above, and several areas of exudative retino-choroiditis. The coloboma had the usual situation—downward and slightly inward—in addition to which there were three apertures, mainly in the upper and inner quadrant, one of which was crossed by two fibres of persistent pupillary membrane. On the capsule of the lens was also a small tag of brownish color, probably the remains of the capsulo-pupillary membrane. Although such congenital defects would apparently interfere with the theory of the dependence of increased tension on the closure of the filtration angle of the anterior chamber, the investigations of Mr. Collins show that such cases confirm that theory. The case also substantiated the idea that polycoria, or so-called supernumerary pupils are due to defects in its tissue, arising from incomplete evolution of the choroid, or they are dialyses, separations of the attachments of the iris, and do not represent malformations due to arrested development. The retino-choroiditis was suggested as the primary cause of the glaucoma. Charts of the field of vision and colored drawings illustrating the appearances of the iris and the eyeground were exhibited.

Partially Bony Growth of the Orbit.—DR. B. L. MILLIKIN, of Cincinnati, reported a case of this nature in which the tumor was successfully removed. The patient, a girl of sixteen, had noticed at six years of age a small hard tumor in the upper inner part of the orbit, which developed very slowly with little or no discomfort. At nine years of age, she had an operation for its removal, the wound remaining open and discharging from April till September. The growth continued from that time until seen in June, 1890. Then the tumor involved the whole inner and upper portion of the orbit, extending outward to the junction of the middle and outer thirds of the orbit, and about an inch below the line of the eyebrow, with marked exophthalmos downward, outward, and forward. The optic nerve was partially atrophied with thread-like arteries; vision, $\frac{6}{60}$. The removal of the growth was undertaken June 17, 1890, when it was found to have a hard, bony covering with soft, fibrous, organized interior. It was all removed, a small drainage-tube inserted, and dressed with bichloride gauze. On the thirteenth day the wound was entirely healed, and the patient left the hospital in good condition. No return has occurred within a year and a half. The microscope showed it to be a spindle-shaped sarcoma with numerous points of fatty degeneration, simulating small cyst cavities.

Schöler's Operative Treatment of Detached Retina.—DR. CHARLES S. BULL, of New York, read a paper on

this subject. He first gave a review of the history and literature of the subject, and then reported five cases of his own in which it had been resorted to. His conclusions were distinctly unfavorable to it. In the first case, a man, aged thirty-eight, with history of a blow on the eye and improper use of the organ, on whom other treatment had been ineffective, three drops injected slowly caused a temporary clouding of the vitreous, with great diminution of vision, followed by return of vision to its original condition without any improvement of the de tachment, or of the visual field, and with formation of a band of cicatricial tissue that must pull upon the opposite part of the retina, and perhaps would lead to a total detachment. The second case, a woman, aged thirty-one, had much the same experience; was left the worse for the operation, with no improvement of the detachment. But in these the inflammatory reaction was remarkably slight. The third and fourth cases were in men, aged sixty and seventy-three. In them a panophthalmitis occurred, causing complete loss of vision in one, and considerable deterioration in the vision of the other. In the fifth case, the ultimate result was an increase of the detachment.

Brain Tumor.—Dr. Bull also reported the following case: The patient came for persistent inequality of the pupils, and was found to have paresis of the internal recti and hyperphoria. He had a history of syphilis, and suffered from attacks of apparently petit mal and lapses of memory. Vision was, right eye $\frac{20}{20}$, and left eye $\frac{20}{20}-$. The fundus of the right eye showed a moderate neuro-retinitis, the left only the usual changes of a myopic eye. Mercurials and large doses of potassium iodide were given, and the optic neuritis improved and entirely disappeared. But very marked hemianæsthesia developed. An eminent neurologist made the diagnosis of cerebral sclerosis. He continued without marked change for many months, then was seized one night with intense pain in the head (having been previously free from headache) and died next morning. The autopsy showed a large gliosarcoma in the left frontal lobe.

Significance of Macular Changes in Advancing Myopia.—Dr. Hasket Derby, of Boston, read a paper on this subject, in which he advanced the idea that the macular changes of pigmentation and hemorrhage in sclerotico-choroiditis posterior, rarely coincide with, or are followed by retinal separation. This involves the probability that the latter accident will never take place, and enables us to predict the probable permanent retention of a certain amount of vision for the remaining years of life. Such was Dr. Derby's experience, and he invited the attention of others to this point.

Orbital Traumatism with Immediate Monocular Blindness.—Dr. Peter A. Callan, of New York, reported two cases of this kind. The first was injured while fencing by the point of a foil, which penetrated his mask and entered the right orbit between the globe and the nose. The eyeball remained intact, but was displaced down and out. When seen forty minutes after the accident, the right eye was entirely blind, pupil dilated ad maximum and ball immobile. There was no light perception, and atrophy of the optic nerve came on in three months. The second case was that of a man, assaulted by a rival and struck over the left eye, stunning him for a moment. On recovering from the dizzy feeling he found that the vision of his right eye was gone. Fifteen hours after the assault the right eye was found blind with widely dilated pupil, but the movements of the ball not impaired. In seventy-two hours right ptosis had developed, and in ninety-six hours there was ophthalmoplegia externa, and subsequently atrophy of the optic nerve. The left eye was not materially injured.

Pulsating Exophthalmos—Ligature of the Common Carotid.—Dr. R. A. Reeve reported a case of this nature. The condition developed in a young man from a kick on the side of the head. Intermittent compression checked the pulsation and purring bruit, but, though continued hours at a time for three months, produced no permanent effect. The common carotid was tied, and he recovered from the operation without complications, but in seven hours the purring bruit recurred. Intermittent compression of the other carotid has proved insufficient, and its ligation is proposed.

Operative Treatment of Divergent Squint.—Dr. E. Gruening, of New York, described a method for the treatment of this affection. The operation of tenotomy, as usually described in the books, was suited to the internal rectus muscle, but quite a different operation should be practised on the external rectus. He had obtained satisfactory results by doing a free tenotomy through a free conjunctival opening, and by a ligature across the nose, tying the eyes in a position of strong convergence. In this way about two millimetres of divergence was remedied. For higher degrees it was necessary to do a resection, cutting out as much of the tendon as the excess of divergence over two millimetres when tested at one-third of a metre.

Heterophoria.—Dr. Swan M. Burnett, of Washington, offered some contributions to the study of heterophoria. He believed that disturbances of muscular balance gave rise to asthenopia, headache, etc., but less frequently does ametropia. In 100 consecutive patients, 22 exhibited heterophoria. Of 50 consecutive cases of heterophoria, 28 were of exophoria, 18 of esophoria, 3 of hyperphoria, and 1 of combined esophoria and hyperphoria. Theoretically, such conditions could be relieved by the wearing of prisms. But prisms are frequently unsatisfactory. By graduated tenotomy a nicely graduated weakening of the predominating muscles may be effected. The histories were narrated of five cases for which this measure had been resorted to. In four of these headache of the severest type and of years' standing had been thus almost entirely relieved. In performing the operation the extreme fibres of the tendon are left intact and a triangular piece excised from the centre.

Restoration of the Lower Eyelid.—Dr. George C. Harlan, of Philadelphia, described a modification of Dieffenbach's operation for restoration of the lower eyelid. When the surface from which the flap is taken is left uncovered, the cicatricial contraction that occurs tends to draw upon the flap, and also to draw down the outer canthus. The modification consists in filling in this space with another sliding flap taken from the temple, in which situation the cicatricial contraction is not likely to exert any injurious influence.

Skin-grafting by Thiersch's Method.—Dr. S. Theobald, of Baltimore, reported two cases of this operation for extensive loss of surface of the eyelid. The grafts were taken from the inner surface of the forearm in strips one-half inch wide, and placed in warm salt solution. No antiseptic was applied to the raw surface, but the granulations were shaved off and washed with warm salt solution. The cases were treated as out-patients.

Second Day, Thursday, September 24th.

Neuroma of the Right Upper Eyelid and Adjoining Temporal Region.—Dr. George E. de Schweinitz, of Philadelphia, reported a case of this affection. The tumor was congenital, and the lad twenty years of age at the time of operation. After the removal of the tumor a plastic operation was done for the relief of entropion, and Pana's operation for ptosis. The microscopic examination showed strands of soft connective tissue containing compressed and atrophied nerve-fibres. The gross appearance was that of elephantiasis. A large proportion of these tumors, as reported, have been situated in this region. Micro-photographs showing the structure of the growth were exhibited.

Vaseline in Gonorrhœal Conjunctivitis.—Dr. F. M. Wilson, of Bridgeport, read a paper with this title, in which he gave his experience with vaseline in 47 cases of the disease, 19 of them ophthalmia neonatorum, among whom two eyes were lost, and 28 in males over sixteen

years of age, with clear evidence of infection. Of these latter 12 were to be classed as mild cases and 16 as severe, all but two of which had ulceration of the cornea. The vaseline was used in connection with ice-cloths, atropine, cleanliness, silver nitrate, and bichloride. The vaseline is to be applied freely between the lids every hour or so, and allowed to make its way to every part of the cul-de-sac of the conjunctiva. It is not a mode of treatment to be used alone, but in connection with other means saves the cornea, and adds greatly to the comfort of the patient.

Roller Forceps for Pressing Out Trachomatous Granulations.—Dr. H. Knapp, of New York, exhibited an instrument for this purpose. At the end the forceps-blades are fixed to creased rollers, between which the tissue is firmly grasped, and as they are pulled away press out the infiltrated matter without much laceration, acting as a mangle or wringer in squeezing water out of clothes. He had used it in fifty-eight cases, and found that follicular trachoma could be permanently cured at one sitting without subsequent contraction or scars. Mixed forms are greatly benefited, but may require other treatment too.

Foreign Bodies in the Eye.—Dr. E. E. Holt, of Portland, Me., reported six cases of extraction of foreign bodies from the eye. In three of these the electro-magnet was successfully used for the removal of bits of steel. In two the foreign body was extracted with forceps, and in one that had been neglected for two weeks the vitreous had become fluid and the globe collapsed from the operation of removal.

Dr. S. B. St. John, of Hartford, reported three cases. In the first, a bit of iron was lodged in the iris, the magnet failed to dislodge it, an incision was made in the cornea, the iris drawn out, the iron disentangled, and the iris returned, the eye recovering with a free and almost circular pupil. In the second a piece of fine wire had remained in a child's eye for one month, transfixing the cornea, iris, and lens, and projecting into the vitreous. In the third the foreign body, a bit of steel, was visible near the macula, and successfully withdrawn with the magnet.

Brain Tumor.—Dr. L. H. Taylor, of Wilkesbarre, reported a case in which the symptoms began with headache and a fall, probably a fit, while playing tennis. When seen there was severe persistent headache, some staggering and weakness, vision equal $\frac{20}{30}$, with very high grade of choked disk. A year later there was complete blindness, with atrophy of the optic nerves, numbness of the face, and marked hemianæsthesia. Death was sudden, without much further change in the symptoms. The autopsy revealed a very large glioma, springing from the corpora quadrigemina and floor of the fourth ventricle, pressing up the posterior lobe of the cerebrum, causing a bulging of the dura and erosion of the skull. Except his first fall there was nothing like a convulsion, and no mental derangement.

Calibre of the Retinal Vessels after Injuries to the Head.—Dr. A. G. Heyl, of Philadelphia, reported some observations bearing on this subject, based on a series of twelve cases, comprising two groups. In the first, brain delirium, or its initial stage, existed; the retinal veins were of about normal calibre but rounded, and the arteries were contracted. In a typical case of simple contusion of the brain, as shown by autopsy, the vessels were first dilated, then passed into the condition above mentioned. In the second group there existed sopor alternans, in which short intervals of sleep alternate with similar periods of waking, and the pupils vary in diameter with these intervals, and in one case the retinal vessels were observed to do the same.

Amaurosis.—Dr. T. G. Sutphen, of Newark, reported three cases of this affection. In the first it followed suppression of menstruation due to a long walk in the snow. In the second case it followed parturition. In both of these, first one eye became blind, then the other, and there was subsequent atrophy. In the third there was complete loss of sight in one eye, without ophthalmoscopic changes, and subsequently there was partial recovery.

Quinine Amaurosis.—Dr. George E. de Schweinitz reported the results of additional experiments to determine the lesion in quinine blindness. His previous observations, reported in the *Ophthalmic Review*, were confirmed, that quinine in the quantity of from one to four grains to the pound in dogs causes blindness, without at first marked or ophthalmoscopic or microscopic changes, except in one case of thrombus of the central vein. Later, all the appearances of a true optic atrophy develop, sometimes associated with thrombosis or embolism of the central vessels. The atrophy causes cupping of the disk and extends back through the nerve-trunk, chiasm, and tract. There was also found some degeneration of the lenticular ganglion. Careful sections of the ciliary nerves and other cranial nerves showed them to be normal. The conclusions of these experiments were that the poisonous action of the quinine is originally due to a constriction of the peripheral vessels; that, later, distinct changes either in the blood itself or in the vessels may cause thrombosis, and complete atrophy and fatty degeneration of a large portion of the optic tract may occur. These conclusions are in accord with clinical observations and the investigations of others. The paper was illustrated by a beautiful series of specimens and microphotographs by Dr. Gray of the Army Medical Museum.

Eye Symptoms in Mongolian Idiocy.—Dr. Charles A. Oliver, of Philadelphia, presented the results of a clinical study of the ocular symptoms found in the so-called Mongolian type of idiocy. The irregularity of contour, size, and in the contents of the orbits, are expressions of the tendency to osseous and ligamental malformations characteristic of the disorder. The eyeball presents the results of low chronic forms of neuro-retinitis and choroiditis in intra-uterine or extra-uterine life. The head of the optic nerve and adjacent tissues share in the soft, jelly-like œdema so universally recognizad in the external portions of the organ. The mucous membrane of the eye and its appendages shares in the pathological peculiarities of such membranes throughout the body. The walls of the visible vessels appear thin and peculiarly tinted, and retinal hemorrhages occur, showing they share the imperfect development, with consequent disease of the entire vascular system.

Eye-Strain from Wearing Cylindrical Lenses.—Dr. Edward Jackson, of Philadelphia, called attention to this cause of eye-strain. Any line seen through a cylindrical lens, unless it be parallel or perpendicular to the axis of the lens, appears to have a false position, nearer parallel the axis of a concave lens, farther from the direction of the axis of a convex lens than its true position. When the cylindrical lenses before the two eyes are of different strengths, or turned in different directions, the images of the lines in the two eyes will be differently displaced, and to bring them on corresponding meridians of the retina will require a different relation of the rotating or oblique muscles from that to which they are accustomed. The extent of the rotation depends on the strength of the lens and its distance from the eye. So that for any given lens the amount of readjustment required can be reduced by bringing the lens closer to the eye, and with strong lenses it was important to have them brought as close as possible, even clipping the eyelashes at first is necessary.

Insanity following the Use of a Mydriatic.—Dr. Taylor reported a case of this kind. The patient, a young woman, had been subjected to severe physical and mental strain in looking after the wants of a family and waiting upon an insane mother. A four-grain solution of atropia was ordered for measuring the refraction, and used for two days without causing unusual nervousness or other symptoms; but on the third day she gave way to causeless, uncontrollable weeping and vain laments, and from that

time grew worse, and in a few months was placed in an asylum, with confirmed melancholia.

Hyoscyamine as a Mydriatic.—Dr. S. D. Risley, of Philadelphia, presented a note on this subject, calling attention to the fact that the preparations offered in the shops varied greatly in quality, and that to gain those advantages which had led him to use it very largely, it was needful to use only a pure crystalline preparation from the best makers.

Dislocated Lens.—Dr. Theobald presented additional notes on a case of this kind, reported to the Society in a former year. Since then the lens had become opaque and had been absorbed after discission. Vision was now improved by weak lenses, and a tag of capsule still remained hanging in the vitreous.

Accommodative Asthenopia.—Dr. Theobald also read a paper claiming that subnormal accommodative power is a not infrequent cause of asthenopia. The principal evidence of the condition is an excessive tendency to convergence at the working distance as compared with the balance of the muscles for distant vision. It is to be met by the wearing of convex lenses for all near work.

The Blind of New York City.—Dr. H. S. Oppenheimer, of New York, presented a statistical paper based on examination of those applying for relief from the city on account of loss of sight, to the number of 571, of which one-third are from the communicable, and therefore preventable diseases.

Optic Nerve Tumor.—Dr. John Green, of St. Louis, presented a colored drawing of the fundus, and described a case of colloid tumor of the optic nerve.

Glaucoma following Cataract Extraction.—Dr. F. Buller, of Montreal, reported three cases of glaucoma after cataract extraction done with iridectomy, but leaving dense pupillary membranes. In two cases the eyes were rendered blind. The third seemed to have the tension satisfactorily reduced by the use of eserine.

The officers chosen for the ensuing year were—*President*, Dr. Hasket Derby, of Boston; *Vice President*, Dr. George C. Harlan, of Philadelphia; *Secretary and Treasurer*, Dr. S. B. St. John, of Hartford, Conn.; *Corresponding Secretary*, Dr. J. S. Prout, of Brooklyn.

The Society adjourned, to meet at New London, Conn., the third Wednesday in July, 1892.

AMERICAN NEUROLOGICAL ASSOCIATION.

Seventeenth Annual Meeting, held at the Arlington Hotel, Washington, D. C., September 22, 23, and 24, 1891.

(Continued from p. 374.)

Third Day, Thursday, September 24th.

Removal of a Neuroma, Followed by Disappearance of Anæsthesia of Fourteen Years' Standing.—Dr. G. L. Walton reported the case of a professional man, twenty-nine years of age, who had fourteen years previously cut the left index-finger with a chisel, thereby injuring the nerve. Complete anæsthesia had persisted. Within two years paræsthesia and pain in the entire hand and tenderness of the nerve-trunk, together with areas of anæsthesia and symptoms of neurasthenia. A neuroma was found in the course of the nerve and removed by excision. Sensation returned within four months after operation, the other symptoms gradually disappearing. The case was reported in order to show that the duration of anæsthesia is no contra-indication to operation on a peripheral nerve.

The Electro-physiology of Reflexes, with the Description of a Hitherto Unknown Localized Physiological Reflex Phenomenon.—Dr. George W. Jacoby read a paper on this subject (accompanied by a demonstration), in which he said that our knowledge of reflexes produced by electrical excitation is still in its infancy, and an electro-physiology of reflexes does not yet exist. The reasons assigned for this lack of knowledge are the necessity of employing very strong currents, and the difficulty of deciding whether contractions thus produced are reflex or not; these reasons he considers entirely invalid. After numerous experiments he discovered a reflex, produced by the application of the negative pole of a galvanic battery to the radial side of the forearm, which consisted in a contraction of muscles of the chin.

Examination of two hundred persons showed that the reflex was present in over seventy per cent. of normal individuals. The experiments were conducted by placing a large Erb electrode over the back of the hand and then making closure of the current with a small electrode attached to an interrupting handle. All such experiments upon the human body have heretofore been entirely dependent upon the statements and feelings of the patient. These unreliable factors can now be eliminated by utilizing the reflex described, as hereby we have a visible proof of the sensory reaction. Jacoby does not doubt that, attention having now been called to this reflex, other reflexes of a similar nature may be found in various parts of the body, and that we will by their examination obtain knowledge not only in regard to the pathological changes in sensory nerves, but also in regard to changes in that part of the cord upon whose integrity the excitation of such reflexes depends.

Supplemental Treatment of the Paralysis of Acute Anterior Polio-myelitis.—Dr. V. P. Gibney read a paper on this subject, and said that a palsied muscle, or a group of palsied muscles, is often very much handicapped by contractured tendons or muscles on the opposite side of the limb. Because of these contractures local treatment is often inefficient. However efficient the galvanic or the faradic current, or even massage, may be, if the muscle is overstretched the efficiency is certainly minimized. Another point was this, that a palsied muscle, or a group of palsied muscles, responds better to local treatment after a period of rest, or at least after being retained for a long time in normal position. In this connection he reported the histories in six cases. He advocated the correction of deformity, the removal of tension from a weakened muscle, the replacement of the joint surfaces to normal apposition, and the assistance generally given to a limb, the muscles of which are weak and palsied.

Intra-cranial Syphilis.—Dr. Landon Carter Gray read a paper upon the diagnosis of a certain form of intra-cranial syphilis, giving the histories of a number of cases in support of his views. These symptoms were a cephalalgia that is quasi-periodical, recurring generally at night, occasionally in the afternoon or in the morning, with marked insomnia; this cephalalgia and insomnia ceasing suddenly upon the supervention of any paralytic symptoms. Dr. Gray also called attention to the fact that a hemiplegia occurring in an individual under middle age should render us very suspicious of a syphilitic causation. This peculiar headache and insomnia belonged to the early stage of intra-cranial syphilis, although it might occur in the primary, secondary, or tertiary state of the general syphilitic infection.

Dr. Mills said that the occurrence of paralysis after the subsidence of headache and insomnia was an unimportant feature in the diagnosis or treatment of syphilis. These symptoms occurred in consequence of degenerative changes.

Dr. J. J. Putnam agreed with Dr. Mills, and mentioned three cases illustrating the supervention of paralysis on the cessation of headache and insomnia. He believed that anæmia or arterial congestion gave rise to the former condition, thus rendering the patient less sensitive to pain.

Dr. Hughes said that the persistency of the headache was of more significance than its periodicity.

Triple Personality.—Dr. Irving C. Rosse, of Washington, read a paper on this subject, and reported a case in exemplification of "triple delusions," occurring in a man, thirty-five years of age, who explained that in addition to himself he consisted of a "young man" and

"Lucifer." This mental condition had remained unchanged, with the exception of about three months of comparative inactivity of delusion nine months ago, since which time gradual impairment of the faculties has left the patient in a state of dementia.

Deformity of the Palate in Idiots.—Dr. Walter Channing, of Boston, presented a series of charts and plaster casts showing the formation of the palates of one hundred and fifty cases of idiocy. A prominent feature of interest was that this is the first time that any accurate observations with measurements had been made along these lines. From the writings of Dr. Langdon Down the impression had arisen that in nearly all idiots the palates were vaulted and V-shaped. Channing had classified his cases into average, neurotic, and deformed, showing a percentage respectively of forty-three, thirty, and twenty-seven per cent.

Double Athetosis.—Dr. William Osler, of Baltimore, read a paper on this subject, based upon fifty-three cases in literature and numerous personal observations. He mentioned incidentally that this condition is compatible with a high degree of intelligence, but is usually accompanied by mental deterioration.

Lesion Locating the Auditory Centre.—Dr. Charles K. Mills reported a case probably accurately locating the centre for word hearing, in which there was a lesion of the first and second temporal convolutions of the left hemisphere. There was word-deafness following an apoplectic seizure. More complete deafness and partial left-sided paralysis following a second apoplexy. Autopsy showed lesions of the first and second temporal convolutions of both hemispheres.

Subcortical Hemorrhagic Cyst Beneath the Arm and Leg Areas.—Dr. Mills reported another case with the above title, with the view of emphasizing a single point in the differential diagnosis of a limited lesion of the motor subcortex.

Autopsy on a Case of Athetoid Spasm and Myotomia, and Diffuse Bilateral Disturbances of Sensation; Chronic Convexity, Meningitis of both Hemispheres with Cortical and Subcortical Softening, the Lesions being most marked in the Posterior Parietal Region.—The same writer reported an additional case with the above title.

Tumor of the Mid-brain and Left Optic Thalamus.—Dr. James H. Lloyd, of Philadelphia, reported the case and exhibited the specimen from a patient twenty-eight years of age, who had been admitted to the Philadelphia Hospital. There was a crossed paralysis, the left third nerve being involved, with right brachial monoplegia and right crural monoparesis. The face and tongue were not paralyzed on either side. No paralysis of any other cranial nerve. Death took place on the twentieth day after admission. The autopsy revealed a tumor of the left optic thalamus and the mid-brain, involving the left cerebral peduncle. On microscopical investigation this was found to be a glioma. A diagnosis of tumor of the left cerebral peduncle had been made at the first examination.

The last five papers were then made the subject of general discussion.

Dr. F. X Dercum said that the sensory features in Dr. Mills's cases would prove an interesting study.

Dr. J. J. Putnam referred to the autopsy, in which no lesion could be found, in the case of a child with double athetosis. In a case of hemichorea there was a distinct spot of softening in the tegmentum on one side. In another patient with locomotor ataxia and no impairment of intelligence, there was a linear subcortical hemorrhage, in the subcortical area below the paracentral lobule. Secondary degeneration had occurred in the cord. He also spoke of a case of sensory aphasia that was operated upon, with the result of finding a cyst occupying the left temporal lobe.

Dr. L. C. Gray mentioned the case of a man with hemiplegia and impairment of the muscular sense, in whom nothing could be discovered on operation. Death took place on the following day. Autopsy revealed a round-cell sarcoma with cystic degeneration in its centre, at the junction of the arm and leg centres. This was situated in the sub cortex. There was also a sarcoma of the thigh.

Dr. Mills asked if the paralysis was spastic.

Dr. Gray replied that it was not, but he thought that spastic symptoms generally occurred where the lesion was near the basal ganglia.

Dr. C. L. Dana cited the case of a man aged forty-six, who had syphilis ten years before. There were headache, left hemiconvulsions, and coma. He recovered with left hemiplegia and left hemianæsthesia. Autopsy showed a gumma of the dura over right central convolutions. In another case of a man aged fifty-five, with progressive right hemiplegia, and some loss of sensibility on same side, there was a tumor about the size of a hen's egg in the middle of the left precentral convolution. He also narrated the histories he had collected of several cases of similar character, showing localization of sensory centres. He held the view that the cutaneous sensations must have their representation in the brain cortex, and had a larger and more diffuse representation than the motor. When one side was affected, compensation would take place from the other side to a greater extent than in motion or other sensations. He claimed that there is no evidence to prove the contrary. Dr. Mills's claim that the centre for cutaneous sensation is in the parietal lobe was at variance with all clinical facts.

Dr. Knapp related the results of autopsy in a child with athetosis from cerebral palsy. There was hydrocephalus, and basilar tubercular meningitis. The examination of the cord was negative. He believed that the view was generally held that the auditory centre resided in the temporal convolution. Except in rare bilateral cases, we cannot be certain until we have better means of testing the auditory fields. His views as to sensory representation in the cortex were in accordance with those of Dr. Dana. He referred to a case under his observation with anæsthesia and a lesion in the motor cortex. Ferrier's claim is disproved by the fact that there was anæsthesia in Dr. Mills's case, without any involvement of the gyrus fornicatus. He agreed with Dr. Dana that tactile sensibility was more represented back of the Rolandic fissure than anterior to it. Negatively, growths in the Rolandic region might exist without motor paralysis.

Dr. J. W. Putnam spoke of a case where, shortly after the removal of nasal polypi, there was gradual loss of memory, and at the eighth day, owing to the absence of sensory or motor disturbance, the diagnosis was made of abscess of the left frontal lobe. Trephined and removed three ounces of pus from frontal lobe. At the autopsy there was found an abscess of the corresponding frontal lobe. In another case with spastic condition of all four extremities, there was a glioma at the base, pushing the medulla to one side. In a child with athetosis involving the head as well as all the extremities, he found apparent absence of bridge of corpus callosum, and abscess in the apex of each temporal lobe. The case had been diagnosed by a good observer as absence or defect of the cerebellum.

Dr. Miles said he had seen a case where tactile sensibility was lost in the hand, after loss of brain-substance from the Rolandic region. This was the result of a fractured skull. He thought it would be difficult to locate the cortical areas in the negro by the same measurements in general use.

Dr. J. J. Putnam referred to a case where the accidental removal of part of the central convolution occurred during operation, and was followed by sensory disturbance.

Dr. Bremer said that he had seen a case in which an attempt was made to excise the wrist centre on right side for focal epilepsy. Neither paralysis nor other symptoms followed the operation. He considered the question un-

settled as to cortical motor and sensory areas. In the presence of spastic symptoms the question is not so much as to the location of the lesion in the subcortex, but the character of the tumor. The varying amount of blood-supply in a hemorrhagic cyst, probably gives rise to spastic symptoms.

DR. MILLS, in closing the discussion, said we are not yet in a position to settle this matter of sensory localization. He thought his case was not conclusive. His view is not that of Ferrier, Horsley, or Munk, but that we have a great sensory lobe, not the gyrus fornicatus or the hippocampal region, but it is an anatomically demarcated lobe. It may include the gyrus fornicatus, quadrate, and posterior parietal lobule. These regions are subdivisions of this sensory lobe, corresponding to subcutaneous muscular groups. Dr. Dana admits that in the cortex sensation has more representation than motion. This suggests one argument in settlement. Dana's cases must be satisfactorily explained. He could give thirty cases to Dana's one case, in substantiation of his view. There must be a sensory-motor association tract as well as a sensory-motor audition tract; cerebral paræsthesia comparable with paraphasia and paralexia. The convincing cases will be the bilateral. If this be true, then Dana has nothing to substantiate his claim. He suggested that sensation can be inhibited, as illustrated by hypnotism. Possibly we may explain the sensory symptoms by inhibition of a tumor in the motor region of the adjacent sensory region. He claimed that operative cases showed no objective sensory symptoms after the removal of large portions of the motor cortex. He was surprised to hear Knapp say that men who supported sensory localization did not support the views as to the centre for audition. As to myotomia and athetoid movements in his case, he was confident that there was no lesion in the capsule and no softening anterior to the retro-central fissure.

Paranoia Presenting Some Interesting Features.—This was the title of a paper read by DR. C. EUGENE RIGGS, of St. Paul. The patient was a young man who, together with various other symptoms, had periods of double consciousness. The question would arise as to whether the patient's peculiar acts were prompted by the morbid egoism so common in paranoia, or were a manifestation not infrequently associated with epilepsy.

DR. H. A. TOMLINSON, of Philadelphia, had seen similar manifestations occurring in epileptics.

Friedreich's Disease, Its Relation to Conducting Paths in the Cord.—DR. DAVID INGLIS, of Detroit, read a paper with the above title. He made a brief report of the symptoms presented by a case in which the essential features of the disease were manifest, and which corresponded accurately with Friedreich's own summary of the clinical characters of the disease, to wit, "Impairment in the co-ordination and harmony of movements, developing gradually and spreading from the lower to the upper half of the body, and involving finally the organs of speech, sensibility, and the functions of the special senses and of the brain being intact," etc. The case is still under observation, but a consideration of the symptoms shown and of the pathological conditions found in recorded autopsies, leads to certain conclusions of interest in regard to conducting paths in the cord.

Ladame, in *Brain* (part lii.), has summarized the results of nine autopsies, to which must be added four autopsies during the past year. There is a very good agreement in them all upon the essential features of complete sclerosis of columns of Goll, marked sclerosis of the greater part of Burdach's column, of the direct cerebellar tract, and the vesicular column of Clarke. Less complete and not so uniformly found, is sclerosis of crossed pyramidal tracts. It becomes clear that all those tracts in the cord which degenerate upward, which are commonly looked upon as centripetal and as conveying sensory impulses, may be extensively destroyed, while yet the patient shows no impairment of the various forms of sensation.

We are driven to conclude that the function of the posterior columns and direct cerebellar is not to carry sensory impulses upward, but rather that they are the main channels for the conveyance of co-ordinated motor impulses downward. The facts of embryology confirm this theory; at the end of fœtal life, at a time when the crossed pyramidal tracts are undeveloped, the posterior and cerebellar tracts are complete—their function evidently begins at birth. When we remember that the new-born infant is not characterized by voluntary control of its muscles, not by accuracy of sense-perception, but by an extensive co-ordination of involuntary motor functions, the conclusion is easy that these tracts subserve these purposes.

The anatomical relations of these tracts with the midbrain and cerebellum are such that we must look upon them as the tracts for co-ordinated impulses from these centres to lower levels. The facts of Friedreich's ataxia compel this solution.

Election of Members.—The following-named gentlemen were elected to active membership: Dr. H. A. Tomlinson, of Philadelphia; Dr. Edward Cowles, of Somerville, Mass.; Dr. Henry H. Donaldson, of Worcester, Mass.; Dr. James Wright Putnam, of Buffalo, N. Y.; Dr. William Browning, of Brooklyn, N. Y.; Dr. Edward B. Angell, of Rochester, N. Y.; Dr. G. J. Preston, of Baltimore, Md.; Dr. Richard Dewey, of Kankakee, Ill.; Dr. Walter Channing, of Boston, Mass.

Papers Read by Title.—The following papers were read by title: "Syphilis of the Spinal Cord," by Dr. Philip Zenner, of Cincinnati; "Gunshot Wound of the Left Cuneus, with Complete Right Homonymous Hemianopsia," by Dr. J. T. Eskridge, of Denver; "The Virile Reflex in Relation to Clinical and Forensic Neurology," by Dr. C. H. Hughes, of St. Louis; "Facial Hemi-hypertrophy," by Dr. W. A. Hammond, of Washington; "A Case of Unilateral Paralysis of the Lips, Tongue, and Pharynx, with the Presentation of Specimens," by Dr. G. M. Hammond, of New York; "Fracture of the Eleventh Costal Spine, followed by Injury of the Spinal and Sympathetic Nerve-supply of the Bowel in the Region of the Ileo-cæcal Valve, Intestinal Hemorrhage and Death on the Seventh Day," by Dr. J. T. Eskridge, of Denver; "Some Suggestions Concerning the Etiology of General Paresis," by Dr. H. A. Tomlinson, of Philadelphia; "Statistical Notes on 232 Cases of General Paresis, with Special Reference to its Etiology," by Dr. H. M. Bannister; "The Mortality of Epilepsy in Asylums for the Insane," by Dr. Wooster.

Election of Officers.—The officers elected for the ensuing year were: *President*, Dr. C. L. Dana, of New York; *Vice-Presidents*, Dr. P. C. Knapp, of Boston, and Dr. E. N. Brush, of —— ; *Secretary and Treasurer*, Dr. G. M. Hammond, of New York; *Councillors*, Dr. Wharton Sinkler, of Philadelphia, and Dr. E. D. Fisher, of New York.

In the evening a banquet was given by the Association, at which over thirty members were present.

AMERICAN GYNECOLOGICAL SOCIETY.

Sixteenth Annual Meeting, held at Washington, D.C., September 22, 23, and 24, 1891.

(Continued from p. 376.)

THIRD DAY, THURSDAY, SEPTEMBER 24TH.

The Treatment of Extra-uterine Pregnancy by Morphine Injection.—DR. F. WINCKEL, of Muenchen, Germany, sent the paper, which was read by DR. REEVE, of Dayton. The author replied to a few theoretical objections which had been brought forward by E. Fraenkel and Künstner. His experience taught him that it was not necessary to do laparotomy the first few months of the extra-uterine pregnancy, that the injection of morphia into the amniotic sac was easier and better. Both ovaries and tubes

remained afterward, and even the contents of the tube might afterward become absorbed, so that the organ could perform its function. If the patient complained afterward of pain, laparotomy could then be performed. In the last nine months two cases had been cured by morphine injections into the amniotic sac. The patients had no pains nor aches afterward, one injection only was made, the tumor became smaller. This method especially recommended itself to the general practitioner unaccustomed to performing laparotomy. "More than one road leads to Rome."

DRS. REEVE, FRY, and REAMY expressed a preference for electricity where laparotomy was not to be resorted to. With DR. PARVIN, they regarded the testimony of Professor Winckel in favor of morphine injections as worthy of the most serious consideration.

The Immediate Closure of Laceration of the Cervix.—DR. CORNELIUS KOLLOCK, of South Carolina, gave the histories of three cases in which he had, being called in consultation, performed immediate repair of the cervix. In all of these cases there was hemorrhage, but he said he would do the operation in any case in which the tear was considerable. The hemorrhage in these cases ceased, and a perfect result followed. The immediate operation favored involution, and saved the patient the great suffering incident to neglected cases.

DRS. T. A. EMMET, R. B. MAURY, and H. C. COE would operate only where the tear was a cause of hemorrhage, while DR. A. P. DUDLEY advocated immediate repair in all cases.

The Conservative Treatment of Pelvic Tumors and Diseases.—DR. EUGENE GEHRUNG, of St. Louis, attempted in this paper to show that certain conditions of the pelvic organs could be cured by conservative methods where laparotomy was now often resorted to. Of course reference was not made to pus sacs, and certain pathological conditions well known to demand the knife. He desired to show that in general, when organs (the uterine appendages) were not permitted to become incarcerated or strangulated, or when they were released from compression, the tendency of the tumor present to grow ceased partly or entirely. On the other hand, where there was firm pressure and conditions favoring irritation, goading the tissues into more rapid growth, laparotomy would in time be demanded. By relieving pressure (preventing formation of strong adhesions) and resorting to such conservative methods as might be indicated, symptomatic relief could be obtained and laparotomy avoided.

The Anatomical Relations of the Lacerated Perineum to the Mechanics of its Causation.—DR. EDWARD REYNOLDS, of Boston, read the paper. It began with an account of some observations which he had been making during the last five years upon the shape and position of the rent in different cases, with an attempt to classify all perineal vaginal tears as modifications, to a greater or less extent, of one type form, which is substantially that described by Dr. Emmet in 1883, consisting of two lateral longitudinal tears of the vagina, joined at their lower extremities by a transverse tear, and connected with the external surface by a median tear of the tissues below the crescent. This tear, but slightly modified, is stated to be the most common form. That which has seemed to me the next in frequency is one of the lateral tears, half the crescent, and the external tear. The crescent alone is not infrequent. I have also seen one lateral tear extend down through the skin by the side of the anus without passing toward the median line. It seems to me that all lesser variations can be arranged under these four varieties. I then proceed to attempt to explain the determination of the rent along this line in all cases by reference to the pelvic anatomy, dividing the tissues of the pelvic floor into two layers, of which the superior consists of the recto vesical and obturator-vesical fascia, with the contained coccygeal muscles, reinforced anteriorly by the triangular ligament; while the inferior consists of the two layers of the superficial fascia, the compressor urethræ, superficial transverse, and sphincter ani muscles. My view is that, when the head is forced through the pelvis with a degree of speed which is too great for the elasticity of the vagina, and consequently produces an intra-vaginal tear, the point of separation is likely to be that at which the strong lateral portions of the superior fascia are attached to the lateral edges of the vagina; this union of three bands of different tensile strength determining the situation of the two longitudinal rents. The crescentic tranverse tear which unites the lower extremities of the longitudinal lacerations is accounted for in the following manner: Owing to the obliquity between the superior layer of the pelvic support and the axis of the vagina, the posterior edge of the vaginal opening in this fascia is carried downward and forward as the head traverses the curved pelvic canal, while its anterior edge is raised and compressed against the pubes, so that the posterior half of the fascia is put upon the stretch, while its anterior portion is relaxed. The action of this upper layer as a whole may be summarized as that of its posterior portion, which resists the downward and forward motion of the perineal body and fourchette. The inferior layer is strengthened in its anterior part by the superficial fascia, which is stated by Savage to be a somewhat firm, fibrous sheet which is especially strong where it is reflected from the transverse muscles. The posterior half is composed of little but skin, sphincter-ani muscle, and peri-rectal fat; so that the action of this lower layer is essentially but little modified from that of its anterior half. The efficient posterior half of the superior fascia is joined to the efficient anterior half of the superficial layer only by the small amount of indifferent connective tissue which binds them together in the perineal body. This attachment furnishes a weak line of cleavage which runs transversely between the inferior ends of the longitudinal tear. When such a separation has occurred the edge of the superior fascia retracts, and is no longer of importance. The head is then restrained only by a thin hood of superficial tissues, which parts along the median line in accordance with the classical explanation given by Savage. Those tears in which the transverse element is most strongly marked have seemed to me to follow prolonged second stages; those in which the longitudinal element is most developed have been generally the result of very rapid labors with powerful expulsive forces. I have had prepared a number of large diagrams, illustrating the lines in which the mechanical action of the various layers comes into play, and a set of diagrammatic views of the more common varieties of laceration, which were drawn from life, some of which exhibit well the form of laceration which, after the muscular retraction of the tissues sets in, bears an extremely close resemblance to the classical longitudinal laceration in the median line—which last tear I have of late years failed to find.

The Electrical Treatment of Uterine Fibromatæ in England.—DR. GEORGE KEITH, of Brooklyn, based this paper upon a study of the subject made in England. He had opportunity of examining the first one hundred cases treated by Dr. Keith and Dr. Skene Keith, and of seeing the treatment and results. He had compared these results with those of hysterectomy and removal of the ovaries, by other surgeons in Great Britain, and the conclusions that he had drawn were vastly in favor of the electrical treatment. He had become convinced that there was room for all methods of treatment of the uterine fibromata, that no one method should be practised to the exclusion of others. This was also the opinion entertained by Dr. Keith. It appears to have gone abroad that he had abandoned hysterectomy since he had taken up treatment by electricity, but this was a great mistake. He still operated in suitable cases; to the author's knowledge he had operated three times the last six months, yet he believed that electricity would cure the vast majority of cases, and this would guard against

the necessity for hysterectomy. There was no doubt but what hysterectomy was frequently performed to remove a tumor which was giving little or no trouble. The advantage of electricity after Apostoli's method were the almost complete freedom from danger and the maintenance of the characteristics of the sex. But the method was yet in its infancy, and the results should be compared with the early results of hysterectomy, which gave a mortality of fifty per cent. Even the fractional death-rate from electricity would, he believed, disappear by the time that method of treatment had been practised as long as hysterectomy. He believed there were not many women who had suffered from an active uterine fibroid who would not be satisfied to be symptomatically cured by electricity, although an inert mass remain in the abdomen, if the risks of an operation were fairly put before them. But the mortality from removal of the ovaries alone should be very small, and the woman should be allowed to choose between this treatment and that by electricity. The electrical treatment took three months, but while it was going on the patient could attend to her duties and enjoy life to the fullest extent on non-treatment days.

Drs. Ford, A. P. Dudley, and A. J. C. Skene, spoke of the value of the electrical treatment, Dr. Dudley having ceased to be a sceptic only after a visit to Apostoli the present year. Dr. Sutton, of Pittsburg, called this treatment "rot."

Laparotomy in Trendelenburg's Posture, with Exhibition of a New Operating-table.—Dr. Clement Cleveland, of New York, formulated the advantages of operating on the abdomen with the pelvis elevated as in Trendelenburg's posture, the intestines descending toward the diaphragm, and exhibited a table which he had devised, and which was composed entirely of galvanized iron.

Drs. Goodell, Edebohls, and Sutton gave their testimony as to the advantages of this posture, and Dr. Edebohls mentioned the fact that the table which he had constructed was adapted to use in general gynecological surgery as well as in laparotomy in Trendelenburg's posture.

Diabetes Mellitus Gravidarum.—Dr. Henry D. Fry, of Washington, read a paper on this subject. Physiological glycosuria, and different forms of diabetes, must not be confounded with diabetes mellitus gravidarum. Under the title of "puerperal diabetes" Mathews Duncan had reported several cases of his own, and as many others as he was able to collect, and the report comprised twenty-two pregnancies in fifteen women. One case had come under the observation of the reader. In the first pregnancy there was normal labor. Diabetes developed about the fifth month of second pregnancy. Death of child and premature labor at seventh month. The mother died five days after labor.

Judged by the paucity of the literature on the subject, it might be inferred that diabetes occurring during the child-bearing period was an extremely rare complication. The author thought, however, that it was not so uncommon as it was unrecognized. That peculiar condition of the pregnant woman which was responsible for the development of the disease in one case, was likewise the factor in adding malignancy to a pre-existing mild attack in another. To aid in recognizing the affection, glycosuria should be suspected and the urine examined for sugar in all cases of pregnancy presenting obscure symptoms—weakness, emaciation, short breathing, etc. It was a good rule to suspect this disease whenever a child was born dead without other apparent cause. Syphilitic poison was no more certain to destroy fœtal life than the diabetic condition. Diabetes might develop at the beginning of gestation, but was usually deferred to about the period of quickening. The disease was less responsive to treatment than under other circumstances. But if it did not terminate fatally before confinement there was more hope. Subsequent pregnancy might start it to renewed activity.

Enough cases had been reported to confirm the statement that diabetes occurring in the child-bearing woman might assume the intermittent form, notwithstanding the admitted rarity of that type of the disease under other circumstances. Death of the fœtus generally occurred about the seventh month, but expulsion might not take place for two months afterward. Excessive development of the child had been mentioned in several cases. Should a woman marry who is suffering from diabetes? From the evidence given, the reply must be in the negative.

Our present knowledge of the subject did not enable us to reply to the question, Should premature labor be induced? He would say, however, that when the symptoms were acute one would be justified in inducing premature labor, which should be done at the earliest time the child was viable.

Officers.—The election of officers resulted in the choice of the following: *President*, Dr. John Byrne, of Brooklyn; *Vice-Presidents*, Drs. R. B. Maury, of Memphis, and Cornelius Kollock, of Cheraw, S. C.; *Secretary*, Dr. Henry C. Coe, of New York. Place of meeting, 1892, Brooklyn, N. Y.

AMERICAN DERMATOLOGICAL ASSOCIATION.

Fifteenth Annual Meeting, held at the Shoreham Hotel, Washington, D.C., September 22, 23, 24, and 25, 1891.

(Continued from p. 377.)

Second Day, Wednesday, September 23d.

The Treatment of Tuberculosis was discussed in a paper by Dr. Fox, of New York, who considered first the local and then the constitutional management of cases. In treating lupus three objects are to be aimed at: 1, The removal of the disease; 2, causing as little pain as possible; 3, producing the least amount of disfigurement. The oldest method of effecting the first was by the knife, this to be considered in no wise the preferable way. Cautery is condemned as painful and disfiguring and inferior to other methods. The flat electrode has given good results in some instances, but it is slow. The curette is of itself insufficient to effect a cure. Scarification has had too much said in its favor. The hypothetical fear that it may set free the bacilli, and allow them to penetrate the system and cause pulmonary tuberculosis, is not a serious objection, but it is only in the ulcerating lupus of the nose that the method appears to the reader superior. In one case fuchsine after scarification appeared to act extremely well. It is believed that there really exists such a thing as scrofula which renders or leaves the subject liable to tuberculous disease, and while cod-liver oil has no beneficial effect in lupus or skin tuberculosis, it has decided worth in this condition. The iodide of starch is highly praised as a reconstructive agent in strumous disease. It should be freshly prepared, by adding twenty-four grains of iodine to an ounce of starch.

Of specific methods in cutaneous tuberculosis, Koch's is the only one worthy of attention. In general the results had been negative, but in some cases the lupus tissue beneath the surface seemed to have been softened by the lymph so that the beneficial results appeared subsequently after other plans of treatment had been instituted. Dr. Piffard said he had published his opinions on the infectious nature of tuberculosis as early as 1877. He still holds that lupus erythematosus is of probable bacillary origin, and is entitled to the name lupus just as much as is lupus vulgaris, cold dermic abscess, or phlegmonous scrofulide, and rodent ulcer he looks upon in the same light, and believes that bacilli will be found in them. An etiological designation would be better than to continue calling these diseases lupus and scrofulide. As to the treatment of lupus the views now held only emphasize those held many years ago. There is only one rational method, and that is to remove the disease by excision

when this can be readily done. Cosmetic results are not of as much importance as is the total elimination of the disease. The bacillus lies deeper than cautery penetrates, so combined scraping and cautery are advised, the latter strong enough to destroy thoroughly. There is only one objection to arsenic, and that is its painfulness. The chloride of zinc combines a disinfectant with the cautery effect.

DR. ALLEN spoke of the advantages of scarification and the pyrogallol and mercurial treatment under which he had recently had some successes.

DR. ZEISLER extols the galvano-cautery used in various ways. The skin can be congealed and rendered painless by methylene chloride. He also defended the nitrate-of-silver stick so much used in Vienna. Koch's lymph had only given negative results in his hands.

DR. BRONSON thought the distinctive names should be retained. He thought the dental burr rendered the silver stick unnecessary.

DR. HYDE was still of his previous opinion, that in the majority of cases of lupus there was no tuberculosis history in the family. He does not approve of scarification. After rhigolene spray he employs the cautery and nitrate-of-silver stick. He thought the time might come when he would find that there was something in the Koch lymph after all.

DR. DUHRING would not discard the old names. He has not noted either local or general tuberculosis in connection with lupus cases. Pyrogallol is well thought of, but he employs it made into a paste with resin cerate, 3 iij.; soap plaster, 3 j.; pyrogallol, q. s. This is to be applied continuously, and the beneficial results are more accurately and more quickly obtained. He has seen no favorable results from tuberculin, except in one case, where the tissues had become softened after its use.

DR. MORROW thought etiological names would be better. Treatment is much a matter of choice. The scarification method which Dr. Fox condemns has proven successful in his hands. There is little basis for the fear expressed regarding anto-infection, and if this danger were really present, igneous scarification would do away with it. For scattered nodules he employs punctate scarification with an instrument at a white heat. The possibilities of plastic surgery will make excision a favorite method.

DR. ROBINSON said it was impossible to have an etiological classification at present. We are still far from the goal in therapeutics. It must be reached by making the soil unfavorable for the development of the disease, or destroy it *in situ* without resort to surgical means.

DR. KLOTZ said it was too sweeping a statement that wherever bacilli of tuberculosis were found we have a tuberculous disease.

DR. BULKLEY recommends phosphorus internally up to the point of tolerance. Pyrogallol he uses as a powder applied locally.

DR. SHERWELL thought it still unproven that the bacilli were the cause and not the effect. Each case of lupus must have its especial method of treatment.

DR. WHITE thought we might still find extra human modes of infection. He still uses parasiticide remedies.

THIRD DAY, THURSDAY, SEPTEMBER 25TH.

Notes on a Visit to the Leper Hospital at San Remo, Italy.—DR. DUHRING, of Philadelphia, having recently paid a visit to the San Remo Leper Institute, described the appearances of a number of cases examined. No segregation or restraint is practised. It is believed that many lepers exist outside of institutions, especially in Southern Italy.

Notes on Skin Grafting.—DR. MORROW read a paper on the transplantation of skin, and exhibited a patient upon whom he had operated for an epithelioma. The peculiarity of the operation consists in the absolute accuracy with which a piece of skin removed by means of the cutaneous punch is inserted into a raw surface made by the same instrument.

Report of a case was read in which scar-tissue upon the scalp was removed and pieces of hair-bearing skin, taken from the scalp of another person, were inserted with partial success. The integrity of the hair-bearing structures can be maintained if the grafts are taken deeply enough. The method is especially applicable after operation upon the face for cancer, warts, moles, scars, etc. The dangers of recurrence after operation for epithelioma are thus thought to be decreased.

DR. SHEPHERD thought the principal point in any form of grafting was to make it aseptic. The skin from amputated limbs and from the dead body had often been employed by himself.

The Treatment of Alopecia Areata was the next paper, by DR. MORROW, of New York. In one case of universal alopecia persisting for many months, after an attack of measles, there was a renewed activity in the growth of hair. At another time marked improvement took place upon the scalp after a sunburn of this region.

The clinical fact of concomitant vitiligo was referred to and illustrated by a case. The parasitic theory is regarded as the only one consistent with our present knowledge of alopecia in the majority of cases. Treatment should be based on the indications presented by each individual case. Stimulation and irritation in some form are called for in almost all instances. It is not deemed necessary that the stimulant should be parasiticide at the same time. In the simpler cases clipping the hair and epilation surrounding the patch is advisable. Then chrysarobin, five to ten per cent., and salicylic acid, two to five per cent., in traumaticin are to be applied. Massage, stimulating oil, and the shampoo are adjuvant means. Acetic acid is well thought of. Pilocarpin and electricity have not been followed by success in the reader's hands.

A Therapeutic Note on Alopecia Areata was read by DR. BULKLEY, of New York. Pure carbolic acid of a ninety-five per cent. solution is the drug which has given him good results for several years. It is not to be applied to too large areas at a time. There is slight pain from it, but patients do not object to subsequent applications. The reader had only employed this remedy upon the scalp. An interval of one or two weeks is often advisable. The reader does not believe in the parasitic origin of the disease, and uses the acid not as a parasiticide but as a stimulant.

DR. ZEISLER thought it unfortunate that one not believing in the parasitic theory should employ such a recognized parasiticide. He has employed salt as a stimulant.

DR. CORLETT has seen no benefit from acetic acid.

DR. FOX spoke well of this remedy. He believes that a general constitutional condition underlies the disease. A daily plunge-bath will prove as efficacious as any local applications.

DR. DUHRING has always held to the view that the disease is not contagious. Arsenic he believes of much value in the treatment of the disease, and superior to all local methods combined.

DR. WHITE thought there was no positive proof on which to base an opinion as to the etiology. He described an epidemic in an institution which simulated alopecia areata more closely than any other disease he knew of, and which was evidently not tricaphytosis. He used by preference croton-oil, half a drachm, and oil of turpentine, eight ounces, rubbed daily. If this does not succeed he finds other remedies fail as well.

DR. STELWAGON has never seen instances of infection or contagiousness. He employs both internal and external treatment.

DR. HYDE thinks the time will come when we will regard alopecia areata as simply a symptom due to a variety of causes. Some instances we must look upon as neurotic. The element of age must be considered in the prognosis. In after life the prognosis is bad.

Dr. Sherwell believes in the neurotic character of true alopecia.

Dr. Grindon has never seen any reason in his practice for basing a positive opinion as to its parasitic nature.

Dr. Greenough had used carbolic acid in ointment for many years.

Dr. Morrow believes a certain contingent of cases are neurotic.

Dr. Allen had long believed in the parasitic nature of ordinary alopecia areata. Two cases in the same family in his experience had pointed to contagion. Internal remedies may render the soil unsuitable for the development of the parasite, and it is likely that some remedies act in this way. He had found naphthol a remedy of value for external application.

Dr. Bulkley insists upon a light application at first to benumb the sensibility, then to brush it in the acid very thoroughly. He gives strychnia and phosphoric acid internally, and increases nutrition in every way possible.

Dr. Bowen had examined the cases spoken of by Dr. White, but while no parasite was found, tricophytosis was excluded.

Xeroderma Pigmentosum was the title of a paper read by Dr. Taylor in description of two cases of Dr. Brayton, of Indianapolis, illustrated by a painting. The disease began at about the age of six and eight months respectively. The family history shows only the two elder children affected. One child died at the age of two, the second is now fifteen. One lesion at the ala nasi the writer fears may become cancerous, if it is not already so.

Pruritus was the next paper, by Dr. Bronson, of New York. Molecular changes within the sensory apparatus constituting pruritus should be recognized as a disease. Cutaneous hyperæsthesia is almost always present. Many cases must be explained by reflex irritation. Hairy parts are peculiarly liable to pruritus. Spastic muscular contraction affecting the peripheral nerves should explain pruritus as much as their contraction about the veins in the skin are the indirect cause of the production of wheals in urticaria.

In conclusion, it is not always easy to distinguish between the primary and secondary features of pruritus. There is a motor and a sensory disturbance, the sensory predominating.

Prurigo would be a simple pruritus had not the scratching produced papules and other lesions. So in pruritus hiemalis the secondary effects are subsequent to the irritation from scratching. The seat of the pruritus is in the epidermis, and is dynamic, though the original seat may be central. Dr. Morrow has observed that long before any visible lesion was present in lepra, there was, perhaps for months, a decided pruritus. Here the changes are in the nerve-trunks and not in the cutaneous distribution of nerves.

Diseases of the Skin Associated with Derangements of the Nervous System was the next paper, by Dr. Corlett, of Cleveland, based upon several clinical cases of neurotic origin. Two cases resembled lupus erythematosus of the face, and one vitiligo, in association with ulcerative and other lesions. They occurred, with one exception, in young women. In two, local irritation appeared to be due to errors of refraction. When these were corrected the eruptions disappeared. In the third there was an hereditary nerve degenerative process.

Dr. Bronson thought we might classify these cases without reference to the nerve element. The first case looked from the photograph much like a lupus erythematosus.

Dr. Fox thought from the distribution and appearance of the lesions in one case that it was an erythematous lupus. The element of itching mentioned by the reader would not be sufficient to exclude this disease. We know that there are neurotic skin diseases, but, as a rule, the nerve disturbances must be separated from the skin lesions.

Dr. Corlett said he had at first regarded two of the cases as lupus erythematosus, but they had not given way to the usual treatment, yet one had been cured after the nerve-centres had been given proper rest.

Chronic Ringworm of the Scalp.—Dr. Duhring, of Philadelphia, based his paper on his experience in an epidemic which occurred in an institution for boys. Ringworm had been prevalent for years, and at the time in point there were forty-six cases discovered. In the selection of remedies stronger ones were employed in those of dark complexion than in blondes. Depilation was given up in most cases as impracticable. Soft soap and sulphur were employed to cleanse the surface. As to parasiticides, carbolic ointment proved less curative than some other drugs. Tar was not efficacious. Iodine likewise. Oleate of copper was abandoned. Mercurials were disappointing. Calomel, however, subdued inflammation of the scalp. Croton-oil was found especially useful, followed by mild parasiticides. In no case was eczema produced by the disease nor by the remedies. Sulphur and chrysarobin were used with much benefit. The first in strength of from one to three drachms to the ounce; the second often supplementing it. Chrysarobin was found to be the most valuable drug employed. The strength varied from fifteen grains to two drachms to the ounce. The smallest possible quantity should be used, and be well rubbed in, the strength being gradually increased.

Dr. Fox prefers solution of the drug in traumaticin to greasy ointments.

Dr. Zeisler spoke of pyrogallol in solution of ether and alcohol, ten per cent., which gave him uniformly good results.

Dr. Grindon had tried the cataphoric use of bichloride, but saw no difference between the drug thus applied and used simply as a wash.

Dr. White uses a combination of sulphur, carbolic acid, and naphthol for out patients, and never chrysarobin or pyrogallol in these patients, on account of its danger.

Dr. Stelwagon agreed with Dr. White. He regarded tar as a rapidly acting and effective drug.

Dr. Klotz uses chrysarobin in chloroform solution.

Dr. Sherwell employs oily substances, tar, and mercurials.

Dr. Wigglesworth objects to a treatment by ointments, but thought some of the oleates would do well, excepting the oleate of copper, with which he had not had good results.

Dr. Allen referred to an epidemic among the girls in an asylum which he had been asked to take charge of. He had spoken of the value of chrysarobin in tricophytosis in discussing the papers on alopecia in the morning session. This drug he had employed extensively in the institution, but had used it in solution. He agreed with Dr. Fox that ointments were uncleanly.

Epilation.—Dr. Zeisler, of Chicago, considered the range of usefulness of epilation, as a dermo-therapeutic measure. This method of treating sycosis is only about thirty years old. He prefers the epilating forceps made in this country to those of Vienna. By epilation we remove the parasites, which are in the hair-shaft, do away with the irritant tissues to the surrounding hair itself, and open the deeper parts to the action of parasiticides. A crusade has been begun against the process of Unna and others who claim that in sycosis shaving is sufficient; but the reader would rather give up all adjuvant treatment than his epilation forceps. In favus epilation is indispensable, though tedious, and must be persisted with till a cure is effected. In eczema sycosiforme epilation gives markedly good results. In alopecia areata, in eight cases, cure was effected in from six to eight weeks, by epilation combined with pyrogallol, and spreading did not occur.

Dr. Fox agreed as to the great usefulness of epilation, but thinks some chronic cases will get more benefit from proper hygienic surroundings than from any local measures.

Dr. Klotz thought epilation important, but sycosis can be cured without it by mild naphthol, sulphur, and zinc ointment. In favus total epilation of the whole scalp is often requisite.

Dr. Duhring had found the pain from epilation so severe that patients would not stand it. In marked cases of alopecia areata there are no diseased hairs left to epilate.

Dr. Morrow took exception to this view.

Dr. Stelwagon has not found epilation essential in sycosis. He employs Vlemink's solution, one part to ten or twelve to begin with, and the strength gradually increased.

Dr. Hyde regards epilation of importance, except in sycosis of the upper lip.

Dr. Allen had usually found the hairs at the periphery of alopecia patches loose, and thought it was a generally accepted fact that they were so.

Dr. Duhring said he meant to refer only to the chronic cases of alopecia as those in which the hair at the periphery was fixed.

Fourth Day, Friday, September 25th.

Molluscum Contagiosum.—A paper upon this subject, by Dr. Graham, of Toronto, showed the contagious nature of the disease from clinical data furnished by an outbreak in a nursery. A micrococcus was separated, cultivated, and inoculated, but with only negative results. It was probably the micrococcus epidermicus albus described by Professor Welsh. The molluscum bodies were carefully studied by Dr. McAdam, in connection with the histology of molluscum tumors. The tumors were found to take their origin in the stratum mucosum, and to have a downward growth. Molluscum corpuscles are in nowise to be considered as themselves the bearers of contagion unless they carry micro-organisms.

Dr. Bowen said there was no longer a question in his mind that the growth was not of sebaceous origin, as some still claimed it to be. He regarded it as undoubtedly contagious.

Dr. Allen referred to clinical facts proving its contagious nature. He thought it probable that the molluscum bodies were in some way the bearers of infection.

Dr. White said that granting its contagious nature we must not wrongly judge the molluscum bodies. He could not regard them as the contagious elements.

Dr. Sherwell spoke of Dr. Piffard's refraction experiments to prove the epithelial nature of the bodies.

Dr. Graham said he thought the amyloid degeneration showed them to be epithelial and not coccidial.

Pemphigus Vegetans.—A note relative to this disease was read by Dr. Hyde, of Chicago, describing a case beginning in the ano-genital region of a female patient, and being mistaken by those who first saw the case for one of condylomata of venereal origin. Patches developed upon the neck, back, and elsewhere, with formation of bullæ upon circumscribed areas of redness. Convalescence is now going on and is promising, but a good prognosis cannot be given. Cultures were made of the bullæ contents, and a micro-organism was isolated, but could not be regarded as specific. Since Croker's review of the subject Neumann has made a valuable contribution. The present is the first case recorded in this country. It is a unique disorder, pointing to a morbid condition of the nerve-centres; but while we are not justified in giving a pathological designation the name pemphigus marginatus is suggested.

Dr. Duhring stated that from observing this case there was only one condition to exclude, and that was syphilis. The name he thinks a good one.

Dr. Bowen had seen one of Dr. Neumann's cases in Vienna, and Dr. Hyde's description tallied very closely with this. He does not think the term pemphigus gives much idea of the condition.

Dr. Sherwell spoke of a somewhat analogous condition in which ovariotomy had been followed by a cure.

Dr. Graham referred to a case resembling this one, but with more severe mouth symptoms. Arsenic in large doses was followed by almost complete recovery. The patient is still alive. There were no vegetations, but the marginate appearance was striking.

Mycosis Fungoides, with Report of two Cases, was the subject of the paper by Dr. Stelwagon, of Philadelphia. One case presented at first a fungoid or mushroom-like tumor over the region at the base of the thumb. Other tumors became scattered over the body and a redness simulating an eczema, with occasional erysipelas-like attacks followed. In the second case there were at first lesions, which came and went like urticaria, then tumors appeared over various regions of the body, in size from a pea to a small cherry. These soon became much larger, and some reached the size of an orange. There were also eczema-like outbreaks. Both cases resulted fatally. Histological examination showed a growth resembling round celled sarcoma. Bacteriological examination showed similar micro-organisms to those found by other observers in this condition. Sixteen animals were inoculated. Results negative. Post-mortem changes were found to be similar to those seen in previously reported cases. The writer classifies the condition with the specific granulomata.

Dr. Hyde spoke of the spots which precede the characteristic tumors and other features of the disease.

Dr. Hartzell agreed that this form of tumor must be classed as specific granuloma.

Dr. Bowen said it was a matter of choice whether the massed cells were denominated lymphoma, sarcoma, or granuloma.

Dr. Duhring thought it bore so much resemblance to lepra, syphilis, and glanders that it was in all probability an infectious disease, but nothing till now has shown it to be either contagious or infectious.

Dr. Fox spoke of a case he had observed, and of the development of a typical case of sarcoma in the person of a woman who occupied the adjoining bed in the ward. Another case resulted fatally within six or seven months.

Dr. Stelwagon said literature showed nearly a hundred reported cases.

Lymphangioma Circumscriptum.—Dr. Hartzell, of Philadelphia, reported a case of this rare disease, and reviewed the eight cases previously put on record, one only having been previously observed in this country. Treatment by cauterization to destroy the vessels thoroughly is the only plan recommended.

Dr. Stelwagon spoke of the confluent nature of the superficial vesicles.

Dr. Bowen spoke of the presence of angiomatous dilatations as well as the lymphangiomatous.

Carbuncle.—Dr. Klotz, of New York, described a peculiar case of carbuncle, implicating the back of the head. There was absence of pain and surrounding inflammation. The region was unusual, and there was considerable parenchymatous bleeding; mycosis fungoides, kerion, and other conditions were suggested by the appearances before the proper diagnosis was made of diffuse carbunculous inflammation of unusually large size. The writer approves of the name carbunculous dermatitis for certain similar cases.

Dr. Bowen spoke, in this connection, of the subcutaneous fat columns, or prolongations, described by Dr. Warren, of Boston, which he thought had not yet received the recognition which their importance warranted.

Erythema and Nævus Nuchæ was the title of a paper by Dr. Allen, of New York, whose observations had led him to consider nævus, or birth-mark, in this region of quite frequent occurrence. Erythema, occupying the central portion of the back of the neck, and extending an inch or more into the hairy scalp, appeared to be present in about seven per cent. of healthy people. In syphilitics this proportion is increased so greatly that the writer

thought it might prove a sign of some value in the diagnosis of this disease.

Lichen Ruber was considered by DR. GRINDON in a paper and report of a case. The eruption was attended with most severe pruritus, exacerbations occurred in cool weather, and the eruption almost disappeared in the warm season. The course was very chronic, almost complete cure apparently took place after a surgical injury. The papules were distributed over the whole surface of the body, the extremities being the parts last to be invaded. The hair and nails finally became implicated late in the disease.

DR. ZEISLER regretted the still great confusion surrounding the lichen group. The description corresponded in many particulars with his own case of lichen planus.

DR. SHERWELL would regard it from the description as lichen planus rather than lichen ruber.

DR. WHITE said the case did not meet his view of lichen ruber, nor yet wholly of lichen planus.

DR. HYDE said he very often saw the typical polygonal outline and umbilication which Dr. Zeisler had failed to find as a rule.

DR. DUHRING thought the case one of lichen planus of divergent type. The polygonal shape and umbilication is often absent, still it is probably more often seen here than in Europe.

DR. GRINDON asked if anyone present had seen a case of lichen planus involving the nails, or beginning on the face and remaining localized there for years.

There was no response.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Thirteenth Annual Congress, held at the Arlington Hotel, Washington, D.C., September 22, 23, and 24, 1891.

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THIRD DAY, THURSDAY, SEPTEMBER 24TH.

The Symptoms and Pathological Changes in the Upper Air-Passages in Influenza.—A discussion on this topic was opened by DR. J. SOLIS-COHEN, of Philadelphia. He had seen during the recent epidemics nearly all the common inflammatory states usually met with, but the most characteristic condition was that of lymphoid œdema. This had occurred in various sites, even in the glottis, producing death from spasm. Purpuric spots existed in the trachea in some instances. The process seemed to run to the various nasal sinuses and thus led to cerebral mischief. Otitis media was common, also hemorrhage and abscess of the larynx. Paralysis of the throat muscles had followed as in diphtheria. The etiology was obscure. General telluric disturbances had occurred at about the time of the epidemics. The symptoms were not at all characteristic. In addition to those following the various local affections there was a peculiar nervous prostration coming on very suddenly. Catarrh had seemed to affect about one-fourth of all the cases, while the rest suffered from pulmonary nervous and gastric symptoms. If the outside areas where the lymphatic œdema existed were incised there was a lymphoid leakage rather than one of sero-pus. The congestion of the catarrhal areas seemed to be passive rather than active. There was undoubtedly a vaso-motor paresis of both the blood- and lymph-vessels.

Dr. Cohen narrated two interesting cases. A man aged eighty had an epithelioma of the palate which was treated with partial success. He suffered severely from the influenza, but after recovery from the latter the epitheliomatous condition disappeared also, and to-day the patient is perfectly well. A woman fifty years of age had tuberculosis of both larynx and lungs with profuse expectoration. She caught the influenza and not only recovered therefrom, but her throat and chest symptoms also disappeared and to-day she is a well woman.

DR. SHURLEY, of Detroit, called attention to the antagonism existing between different diseases, as tuberculosis and erysipelas; also the correspondence in mode of onset of influenza to cerebro-spinal meningitis. An alkaloid had been extracted from tubercular sputa which by inoculation caused a lymphoid œdema without pus, as in the glandular variety of diphtheria.

DR. WRIGHT, of Brooklyn, noted an absence of local lesion in the second epidemic, but the prominence of the nervous depression and prostration. The middle ear had been frequently affected.

DR. ASCH, of New York, had found tonsillitis with great depression the most common feature.

DR. CASSELBERRY, of Chicago, had found a most violent catarrh in all the upper air-passages, but no specific lesion. It began above and ran down to the pleura and lungs.

DR. S. SOLIS-COHEN, of Philadelphia, had found more affections of the upper air-tract in private than in institution cases. After otitis media seemed to be the only lesion.

DR. ROE, of Rochester, had found that those with a previous hypertrophic rhinitis suffered especially from head symptoms, those with chronic pharyngitis from throat symptoms. The cause of the œdema was a vaso-motor paresis associated with cardiac weakness. He had not regarded it so much as an inflammatory affection. Cardiac stimulants had been of the greatest service.

DR. LANGMAID, of Boston, had had one case of œdema of the glottis from the influenza, but the most prominent feature in the disease as occurring in Boston had been otitis media. In general there had been but little tonsillar engorgement. Lower down there was a circumscribed broncho-pneumonia. This latter generally cleared up, but sometimes left a lasting hepatization owing to the cellular infiltration.

DR. JARVIS, of New York, thought that patients with a previous pathological condition of the septum had been more liable to be attacked than those with other forms of spinal disease.

DR. ROBINSON, of New York, had found the middle ear to be frequently involved, but the appearance of the organ did not at all correspond to the severity of the subjective symptoms. The tube was pervious and the drum membrane apparently normal. Tinnitus was greatly complained of, with a dull heavy feeling in the ear, and the sense of the presence of a foreign body. The cases were generally more severe on one side than on the other, did not go on to suppuration, and were very obstinate.

DR. GLASGOW, of St. Louis, had seen considerable suppuration of the antrum as a sequela. The exudation in the influenza seemed to be always purulent, whether on the mucous or serous membranes, or in the brain. Catarrhal disease was modified during the attack, but returned as soon as the epidemic passed away. In fatal cases there had been found a softening of all the viscera, especially of the cardiac fibre.

Useful Deductions Derived from the Study of a Case of Cicatricial Contraction of the Larynx, Possessing Unusual Clinical Features, with Exhibition of Specimen.—DR. W. C. JARVIS, of New York, read a paper with this title. His patient was a man aged sixty, who had a specific lesion forty years before. For only some three years before his death he began to complain of headache, vertigo, and suffocative attacks, especially severe at night. His nasal septum was perforated, and from the nose the disease had travelled down to the larynx. The sites of invasion all showed much scar-tissue. The epiglottis showed only a cartilaginous remnant. The upper laryngeal aperture consisted only of a small circular opening, yet a fair phonation led to the belief that the vocal cords were still intact. The suffocative attacks were probably due to the inspiration of food and liquids, extra laryngeal mucous, subacute catarrhal congestion, and there was frequent inspiratory spasm. Palliative measures, consisting of local lubricant applications, gave some relief. Iodide of potash greatly benefited the asth-

matic attacks, as it was well borne. But tracheotomy was finally advised, as in spite of all that was done the patient grew worse. He finally died of enteritis without having had the operation performed. The peculiar features of the case were his long and, for a considerable length of time, comfortable sickness. Intubation to dilate the stricture was not permissible, as it was impossible to get at the latter, and the least instrumental irritation of the larynx caused a spasm. Dr. Jarvis believed that if the nasal lesion had been properly treated at the first, the lower affection would not have occurred. The relief from the iodide was ascribed to its effect on the pulmonary emphysema which the patient had, though the asthma was probably due in part to coexistent syphilis of the lungs.

The specimen was exhibited, and the stricture scarcely afforded entrance to an ordinary match.

Dr. J. Solis-Cohen thought that a normal glottis would be found in the specimen if the stricture was cut into.

Dr. Mackenzie, of Baltimore, related a somewhat similar case of a young man, aged twenty, who suffered severely from inspiratory dyspnœa due to bilateral abductor paralysis. He was immediately tracheotomized, but the relief was slight. He steadily grew worse and died in two or three days. Post-mortem a small gumma was found in one apex. Both recurrent nerves were encased in a mass of cicatrized and enlarged glands, while the individual fibres had undergone a fatty and granule degeneration. There was at the bifurcation of the trachea a stricture so narrow as scarcely to admit a fine probe. The patient had been on large doses of iodide, and was "killed by his cure," as the cicatrization of the specific ulcers had led to the stricture. He had become infected from the gumma in the apex. This local confinement of syphilis to the respiratory tract is not uncommon.

Dr. Asch thought that the use of either Schroetter's or O'Dwyer's tubes might have relieved Dr. Jarvis's case.

Dr. Casselberry, of Chicago, thought there was great danger in palliative measures, as any chilling or nervous influence might provoke a fatal spasm in these cases. Tubage is dangerous. Tracheotomy should first be done and may be supplemented by dilatation and the iodide.

Dr. Sajous, of Philadelphia, thought there was a danger often overlooked in the use of the iodide itself. In too large doses it may cause laryngeal œdema, especially where we have manifestations of kidney disease. Tracheotomy tubes should always be at hand.

Dr. S. Solis-Cohen, of Philadelphia, did not see how it was possible for œdema to occur in a cicatricial mass. He had noticed that a very small passage would supply enough air.

A Case of Epithelioma of the Larynx.—This was the title of a paper read by Dr. Morris J. Asch, of New York. The case was one of intrinsic cancer in a man, seventy years of age, who for a long time suffered only from hoarseness. The site of the growth seemed to be the left ventricular band. The left ary-epiglottidean fold was normal. The sub-glottic view could not be obtained. There were otherwise only the usual appearances of a chronic hypertrophic laryngitis. The disease gradually spread and finally appeared on the other side. The usual symptoms of aphonia and dyspnœa slowly appeared and grew so severe that a tracheotomy was finally done under cocaine. Much relief followed, but an attack of influenza caused considerable discomfort. The cannula in the neck was constantly clogged up by a thick, tenacious mucus, later becoming bloody. The patient finally died from exhaustion after a suffocative attack. The autopsy showed the disease confined to the ventricular bands and larynx. The cords were thickened, but the neoplastic formation did not extend below the tracheal wound. Intrinsic cancers grew slower than extrinsic. They were less active and malignant, and consequently less liable to recur after removal. Pyoktanin had been used locally and given internally in doses of three grains. It upset the stomach and did not seem to have any effect on the local process. The cause of the dyspnœa was probably the projection of the mass into the windpipe.

The Laryngo-Tracheal Neoplasms of Tuberculosis.—Some remarks were made on this topic by Dr. John N. Mackenzie, of Baltimore. He divided these growths into the following classes: First, papillary hyperplasia. These were granulation-like bodies springing up from the edges and base of ulcers. They varied in size and shape. They rarely came from simple ulcers or from the later aphthous ulcerative condition of later tubercular states. The ulcer was separated from the healthy tissue by a zone of hyperplastic connective tissue, forming a sort of projecting barrier to isolate the morbid process. The granulations were made up of connective-tissue fibres and cells with enlarged and tortuous capillary vessels. The process was conservative and an effort of nature to heal by granulation, though she generally failed in the attempt. They should therefore not be removed unless so numerous as to occlude the lumen of the air-tube. Second, little tumors, warty, acuminate or leaf-like, which in structure did not differ from laryngeal papillomata. They generally occurred after a chronic catarrhal state, but sometimes in the anæmic stage, and heralded, so to speak, the approach of the more severe process. They were generally found in the inter arytenoid space. Stoerck regarded them as an infallible sign of the tubercular process. They were best treated by chemical cauterization, unless they were large enough to snare. They were not, as far as we knew, connected with true maxillary tubercle. Third, and most important, solitary tubercular tumors, isolated and made up of a mass of miliary tubercles set in a vascular net-work of connective tissue. They grew mostly from the submucous connective tissue and were less apparent at the surface. The treatment is problematical, as we do not know how deep they go.

Dr. J. Solis-Cohen narrated the history of a patient in whom a tuberculous process had invaded one lateral half of the larynx as well as the epiglottis. The cords were not affected. Considerable of the growth was removed by sharp scissors while the remaining parts were treated by lactic acid applications. Creasote in large doses was given and the patient recovered. There was no ulceration in the mass. One pulmonary apex was softened.

Dr. Sajous regarded the inter-arytenoid space as the favorite seat of such deposits. Chromic acid had given, in his hands, the best results.

Dr. Mackenzie would class Dr. Cohen's case in the second group, but as no bacilli were found (a fact stated by Dr. Roe, who also saw the case), he should be inclined to doubt the accuracy of diagnosis. He did not believe that the tumor would have reached such a size without ulceration if it were tubercular. Three different microscopists had examined Dr. Cohen's case, and no two agreed as to the nature of the growth.

The Relations of Disturbances of the Mucous Membrane of the Upper Air-Passages to Constitutional Conditions.—A discussion on this topic was opened by Dr. Beverley Robinson, of New York. Attention was called to the fact that the modern tendency of medical thought was to throw doubt on the belief in the existence of the so-called diathesis. Disease was looked upon as originating from some local cause, seen or unseen. Hence more local treatment was necessary. The tendency of modern specialism was to produce a limited mental horizon. Mucous membranes seem to be the habitat for disease-germs, yet constitutional symptoms may precede the localization of the morbid process. Such bodily tendencies as rheumatism, scrofula, syphilis, gout, alcoholism, lithæmia, etc., all tend to make the local condition worse. Attention was called to the points of differential diagnosis in some of the common throat affections.

Dr. Robinson believed that a malarial tendency underlay many of our ordinary catarrhal colds. In cases of the latter, the hematozoöid had been found in the blood, and these cases had yielded promptly to quinine, while local treatment was of very little service. Quinine would sometimes cease to relieve, then phosphorus and strychnine were indicated.

A paper on the same topic, by Dr. T. A. De Blois, of Boston, was also read by Dr. Robinson.

Dr. Mackenzie did not regard scrofula as a distinct entity. According to the pathology of the present day, scrofula is tuberculosis.

Dr. Jarvis could not accept this exclusive view. Some scrofulous manifestations looked like tuberculosis, while others resembled hereditary syphilis.

Dr. Mulhall would define scrofula as "the product of a conception at the time of which one or both of the parents were not in a condition to procure healthy offspring." This unfavorable condition might be due to alcohol, senility, starvation, etc., as well as other causes.

Dr. S. Solis-Cohen believed in the existence of a true scrofula. It was the child of syphilis and the parent of tuberculosis. To understand the subject we should study syphilis and tuberculosis in their relation to the production of cell energy. There was not enough constructive force in a scrofulous child to overcome the destructive energy and the opposition to cell growth. The French had used for this condition the terms "hypertrophy" and "congenital dystrophy."

Dr. Glasgow considered that the tubercle bacilli had no reference to scrofula.

Drs. Bosworth and Ingalls also discussed the paper.

During the sessions of the Association the following papers were read by title: "Observations on Paralysis of the External Tensors of the Vocal Cords," by Dr. George W. Major, Montreal; "Some of the Uses of Pyoktanin in Diseases of the Upper Air-Passages," by Dr. R. P. Lincoln, New York; "The Surgical Treatment of Tubercular Laryngitis," by Dr. D. Bryson Delavan, New York.

Election of Officers.—The following officers were elected for the ensuing year: *President*, Dr. S. W. Langmaid. of Boston; *First Vice-President*, Dr. M. J. Asch, of New York; *Second Vice-President*, Dr. S. Johnston, of Baltimore; *Secretary and Treasurer*, Dr. Charles H. Knight, of New York; *Librarian*, Dr. T. R. French, of Brooklyn; *Council*, Drs. W. C. Glasgow, of St. Louis; F. I. Knight, of Boston; D. Bryson Delavan, of New York; Harrison Allen, of Philadelphia.

Dr. J. H. Bryan, of Washington, was elected a Fellow of the Society.

The next session will be held at Boston in June, 1892.

AMERICAN CLIMATOLOGICAL ASSOCIATION.

Eighth Annual Meeting, held in the Grand Army Building, Washington, D. C., September 22, 23, 24, and 25, 1891.

(Continued from p. 381.)

Third Day, Thursday, September 24th.

Epidemiology of Influenza and Its Relations to Catarrhal Fever, was the title of a joint paper by Drs. R. G. Curtin and E. W. Watson, of Philadelphia, read by the former. Catarrhal fever, due to the same specific cause, precedes and is associated with epidemic influenza, which latter represented a most violent outbreak of the more causative influences. Catarrhal fever appeared a year in advance of the influenza epidemic of 1889. This catarrhal fever presented a symptom group heretofore undescribed in the literature of medicine. It represents the same morbid process as that productive of influenza. Taking the experience of Australia as a criterion, he thought we had every reason to expect continued manifestations of influenza during the next two years. In Australia the disease had recurred during five successive years, 1885, 1886, 1887, 1888, and 1889, the symptoms being identical with those observed in our own country during corresponding periods of time. He thought that the type of influenza which would next appear would closely simulate in symptomatology the local appearance of diphtheritic processes, and would also assume the type of an epidemic cerebro-spinal or spotted fever. He had no doubt as to the positive contagiousness of the disease.

Reports on the Late Epidemic of Grippe.—Dr. A. Alexander Smith, of New York, reported observations upon some of the less common phenomena of influenza, especially as they involved the skin, nervous, mental, and digestive systems. He had noticed several instances of cutaneous symptoms resembling the lesions of scarlet fever and of measles. An urticaria frequently occurred in cases with marked gastric disturbances. Purpura had also been observed in several instances. Acute mania, not associated with high temperature or with alcoholic habits, had also been noted. The delirium in certain cases resembled that of mania-a-potu in subjects non-alcoholic. In old cases of chronic alcoholism the disease acted as an injury does in such cases, producing a condition like delirium tremens. Suicidal tendencies he had frequently observed; homicidal tendencies had been rare; convulsions, and the many paralyses mentioned by other writers, he had not observed. In certain cases characterized by quite marked gastric intestinal disturbance, he had noted marked jaundice as a complication or sequel. He cited statistics collected from the tables of the Board of Health in New York, bearing upon the mortality from pneumonia, bronchitis, and pulmonary phthisis, during the five years preceding the outbreak of influenza, as compared with the deaths from these diseases occurring during the two years of epidemic grippe. These tables showed a large increase in the percentage from pneumonia and bronchitis, but none from pulmonary tuberculosis. According to Dr. Tracy, at least eight hundred thousand New Yorkers had been affected by the epidemic with a personal attack in 1891, while Dr. Edson placed the number at nine hundred thousand or more. As illustrating the effect of occupation and atmospheric exposure to the development of the disease, these statistics showed that of the police and letter carriers of New York ninety per cent. had contracted the disease, the remaining ten per cent. constituting the proportion engaged in indoor or clerical duty.

Dr. Curtin, of Philadelphia, read a report prepared by Dr. Watson in conjunction with the reader's description of the disease, as it was observed in Philadelphia, based upon five thousand cases. They had recognized a circulatory, nervous, alimentary, catarrhal, and rheumatic type of the disease, and found that depression of the circulation and nervous system had been the two conditions requiring most vigorous consideration in treatment. Cases of grippe ending fatally did so usually through the involvement of respiratory function, and, secondly, through the medium of heart failure.

Dr. Nunn, of Savannah, described the disease as it appeared in the South. The earlier cases, during the first outbreak, were simple in character, and presented no special difficulty in their management. Later the disease assumed a different type, and appeared to be distinctly a neurosis. All symptoms could be explained, no matter how varied, upon this hypothesis. He had found stimulants most effective in the treatment. Among these ammonia salts and nux vomica had been most beneficial. Opium he had found attended with very unfavorable results in all cases. He recalled one death undoubtedly due to this cause. Hydrastis had also proven a valuable remedy in the disease. Convalescence had been invariably tedious, and he could recall cases not yet recovered from the effects of attacks incurred two years ago. Among the more remote effects he had noticed a tendency to light up diathetic tendencies—the arthritic would develop rheumatic attacks, etc. A change of climate had always proven beneficial in hastening convalescence.

Dr. Mulhall, of St. Louis, had confined his observa-

tions to the effects upon the respiratory organs. The winters during both epidemics had been unusually mild, the rainfall and high winds had been excessive, the snowfall slight, and mean average temperature high. Not many deaths had occurred from uncomplicated attacks at the time, but many deaths within a year succeeding had occurred from pulmonary consumption. The vast majority of cases were not tuberculous when attacked, as proven by microscopical examination. A peculiarity proven by clinical and post-mortem observations was, that the materies morbi of la grippe often aroused dormant or latent pathological processes, which became then rapidly fatal. Another peculiarity noted was the long-continued congestions preceding active inflammations, not uncommonly relieved by hemorrhage. The recognition of this peculiarity is an important matter in the lungs, in order to prevent the often-noted cycle of congestion, hemorrhage, pneumococci, tubercle bacilli, and death. This latter clinical picture was proven in patients under his care, by the bacteriological demonstrations of Dr. Ludwig Bremer. As a rule, the disease did not tend to suppuration. A noteworthy result of influenza had been observed by the speaker, in a loss, more or less permanent, lasting in some instances more than a year, of the singing voice in professional vocalists, especially the upper register. He did not believe it possible to determine the question of contagiousness, although it was presumably true. One attack gives no protection. He had observed a recurrence of the disease in one patient five times in two years. The clinical picture and the remarkable sequelæ prove that the nervous system plays the most important rôle, anatomically speaking. Vaso-motor paresis, peripheral and cerebral, is the dominant pathological feature.

Dr. Ingalls, of Chicago, had observed radical differences in symptoms, referable to the nervous, respiratory, and digestive systems, in the last epidemic, as compared with the year previous in the disease, as it appeared in Illinois. The nervous symptoms were much more pronounced, as manifested in neuralgic affections, prostration, and mental involvement. Derangements of the digestion were more pronounced. The epidemic of last year had been followed by a large number of cases of fever closely simulating typhoid fever, but lacking some essential features of the latter disease. These fevers were from ten days to two or three weeks in duration. The respiratory symptoms differed in the type of pneumonia observed. In the first epidemic the catarrhal form prevailed, while last year the croupous type was the more frequent The nasal and throat symptoms were noticeably mild. Pleural affections were more common, and he had observed a tendency to suppuration in the pleural cavity as not uncommon. Tracheitis among the respiratory symptoms was the most common of all, giving rise to a violent cough of spasmodic character easily re-excited weeks or months after recovery by undue exposure. He had seen offensive muco-purulent discharge with this cough. In the treatment he had found the bromides effective for cough, other treatment had been symptomatic.

Dr. Munro, of Boston, also read a report on the subject, based upon peculiarities observed in the disease as it prevailed in the New England States.

In the discussion which followed, Dr. Levick, of Philadelphia, referred to a paper, published by him in 1864, upon the subject of epidemic influenza, which illustrated the remarkable consistency in the symptomatology of the disease regardless of changes in methods of living environment or alterations in race peculiarities. He had described in the paper mentioned a busy delirium like that of mania-a-potu, similar to that referred to in the discussion to-day. Scarlatina-like eruptions, cutaneous lesions resembling measles, urticaria, lichen tropicus, and erysipelatous patches had all been mentioned as appearing among the manifestations of the disease as it occurred in 1864. Jaundice he had also noticed and described. He believed the relationship of epidemic cerebro-spinal meningitis, or spotted fever, to epidemic influenza to be a close one etiologically. In 1864 the two diseases occurred simultaneously as an epidemic. He suggested an identity of the two with only a difference in degree. Gallup, Trent, North, and Job Wilson, writing in the earlier part of the present century, had all advocated the doctrine of identity. If we should have a cold winter this year, he felt confident we might expect an epidemic of cerebro-spinal meningitis.

Dr. Ward said that the disease manifested its most conspicuous action upon the central nervous system, and that such action was of the nature of a functional derangement, not an organic change. One attack did not give immunity from others, as he had known the same patient to suffer several times. Influenza only lit up old pathological processes by reducing the patient's vitality and consequent resistance to disease.

Dr. Ford, of New York, doubted the contagiousness of influenza.

Dr. Musser, of Philadelphia, cited the published experience of Dr. Trudeau, of the Adirondack sanitarium, in support of his belief that the disease was communicable by personal contact.

Dr. Ruedi, of Denver, related the cases of four mountaineers, completely isolated in the Alps of Switzerland, who did not suffer from the disease for months until after one of them had undergone exposure by a short visit to a village in the valley below where the disease was prevalent, he developing the grip three days later and all his companions, hitherto free, falling victims.

Dr. A. H. Smith, of New York, spoke of the treatment which had been most effectual in his cases. He had used with great benefit in his practice a combination of phenacetin, 3½ grains, camphor, ½ grain, and atropia, $\frac{1}{100}$ grain, which relieved the pain quickly and controlled temperature without any cardiac depression or excessive sweat. He had used quinia as a tonic in convalescence and had not had a fatal case or any case of pneumonia as a complication in his private practice, though many cases had undergone a tedious convalescence. Codeine had been of great service in the obstinate irritating cough sometimes observed. He was not able to form any positive opinion as to the contagiousness of the disease.

Dr. Von Ruck, of Asheville, N. C., rather advocated a belief in the personal communication of the disease. In the sanitarium at Asheville, with some forty odd guests, no cases occurred during the first six weeks of the epidemic prevailing in the city. The first cases occurred in servants of the institution having outside communications. Only three cases occurred among the inmates of the sanitarium.

Dr. Fiske, of Colorado, had noted nervous symptoms as peculiarly prominent in cases which occurred in Colorado. He had observed that the attacks during the outbreaks this year and last were markedly different. This year none of the cases had shown any intestinal symptoms. In Colorado invalid consumptives had shown a marked exemption from the disease, and when they did develop influenza it was invariably of a mild type, and he had no recollection of a single death in a phthisical patient. New patients coming from the East, however, during the past year had almost invariably dated their disease to an outbreak of la grippe.

Dr. Johnston, of Washington, did not think it possible to explain the widespread simultaneous development of la grippe as being due to personal contagiousness. Epistaxis, which had been referred to in one of the reports as rather a conservative symptom, he had found invariably to be a dangerous complication. Intestinal hemorrhage he had also observed and the patient narrowly escaped death. He had seen several cases in quite young children, contrary to the belief that young children were exempt.

Dr. Van Bibber, of Baltimore, had met with an experience which tended to establish his belief that the dis-

ease was contagious. He had found narcein, in doses of one-quarter grain, very valuable in relieving cough and neuralgic pains.

Dr. Smith, of St. Augustine, stated that in Florida the disease did not appear at all during the first year of its prevalence in America. Last year the cases were mild, free from complications, and with no abdominal symptoms. The mortality was very slight.

Dr. Gilrou, of the United States Army, described a personal attack in which mental despondency was the most marked characteristic. Dr. Levick's description of the disease as it occurred in 1864 was equally appropriate and accurate in its bearings upon his own case.

Fourth Day, Friday, September 25th.

Diphtheria at High Altitudes.—In a paper upon this subject, Dr. W. A. Jayne, of Georgetown, Col., from observations based upon 68 cases observed personally, reached the conclusion that a high altitude exerted a decided restraining influence upon the bacteria of diphtheria; that few cases developed through contagion, and that bad sanitary surroundings were in a direct ratio to the virulence of the disease. Of the 68 cases recorded the mortality was twenty-five per cent. Twelve died from sepsis, 5 of which were hopeless when first seen. Of the total number of cases, in 32 the formation of membrane was limited to the pharynx, and of these, only one died. In 31 cases the nasal mucous membrane was attacked, and 14 of these cases proved fatal; of 4 laryngeal cases, 2 died. Nasal involvement, as in lower regions and the East, proved most fatal. In the cases which recovered, convalescence was prompt, and the disease was free, comparatively, from complications. Palatine paralysis was not uncommon, but disappeared quickly without treatment.

Dr. Von Ruck, in the discussion, asked if the method of chlorine injection under the membranes, recommended by Seibert, had been tried in the reported cases, and if so, with what result.

Dr. Tyndale described the method of Siebert in using chlorine water, referring to the fact that it was only of value in tonsillar deposits.

Dr. Rogers, of Colorado, had noticed that the majority of cases occurring in Denver had been characterized by nasal involvement. Heavy, wet, spring snowstorms, which were not common in Denver, left much moisture, and were always followed by outbreaks of diphtheria. The disease is next to typhoid fever, in its frequency and malignity, in the high altitudes of Colorado. By the free use of mercury, however, he had overcome his dread of the disease. His treatment consisted of the bichloride of mercury, in doses of from $\frac{1}{48}$ to $\frac{1}{12}$ of a grain, every two hours, for twenty-four hours, the only limit to the dose being the effect upon the membrane. He did not fear the drug, and by its use in conjunction with hydrogen peroxide locally, he had reduced his death-rate seventy-five per cent. Deaths from nephritis were far less common under mercury than when he had used iron alone.

Dr. Glasgow also participated in the discussion.

The Pretubercular Condition.—Dr. J. Hilgard Tyndale, of New York, expressed the belief, in a paper with this title, that the development of tubercular disease in the individual is largely determined by the presence of an inherent destructive metabolism, as opposed to a constructive metabolism in others, the terms being synonymous with those of scrofulous and fibrous diathesis, according to the nomenclature of Loomis. An investigation of the pretubercular condition involves the acceptance of two maxims or propositions: First, that all more than temporary departures from a condition of well-being of which the patient has been conscious for weeks or months, and which cannot be made to fit into the frame of recognized acute or chronic, functional or organic, disease, represent the pretubercular condition. Three stations are to be noted: 1st, That made up of the general malaise just mentioned, which is entirely subjective; 2d, changes in the respiratory elements of rhythm, pitch, and finally, of quality; 3d, dry, followed by moist râles. The first station is the true pretubercular condition; the second and third merge into regular tubercular invasion. Second maxim: The pretubercular condition is a tubercular colonization in the lungs, as yet undemonstrable by physical signs, engrafted upon those whose general condition has made them fit subjects for invasion.

Dr. Von Ruck, in commenting upon the writer's views, emphasized the radical importance of an early recognition of the so-called pretubercular condition as representing the first stage of tubercular invasion where auscultation and percussion as yet furnished no clue, a condition soon merging into readily demonstrable changes in the respiration, and finally, râles. Instead of sending cases with large cavities, in a hopeless state, to suitable climatic resorts, this much-neglected first stage should claim the attention of physicians as offering a field for positive curative results.

The Waters of Richfield Springs.—Dr. C. C. Ransom read a paper descriptive of the methods in use at the Springs in the administration of the waters and baths. The chemical character of the waters and the indications and contra-indications in disease were elaborated with a view to the selection of appropriate cases by physicians sending patients for treatment. Nearly all forms of skin disease and the various types of rheumatism were benefited or cured by the waters.

The Climatic Treatment of Chronic Diarrhœa was considered in a paper read before the Association by Dr. W. W. Johnston, of Washington, D.C. The observations and conclusions embodied in his paper were applicable not only to forms of chronic intestinal catarrh with diarrhœa, but to those also in which the discharges consist of mucus passed alone or in connection with more or less solid fecal matter. These cases are often most obstinate, and resist all efforts at home treatment. Two clinical varieties were considered: First, the primary and simple form of chronic intestinal catarrh, with or without follicular ulceration, the type of which is the chronic diarrhœa of armies and prisons, observed also in civil life; second, a form most frequently met with in practice, more complex in its origin and nature; it is not primary, but is the outcome of prolonged ill-health characterized by chronic indigestion and various nervous phenomena. The causes are overstrain of the nervous system brought about in men by professional or business cares and anxieties, and in women by frequent childbearing and a mother's many worries. The patient passes successively through the stages of gastro-intestinal indigestion, hepatic disorders, and constipation; there may be lithæmic, neurasthenic, or gouty symptoms, the stools sooner or later contain mucus, pure or floating in a watery fluid.

This complex disease can sometimes be cured by partial rest from work, by dietetic regulations and medicine. Often, however, only temporary relief, or failure, attend every effort, and radical measures, involving changes of residence and climate, become necessary and must be adopted. Travel is not to be recommended, as the inconveniences, discomforts, and fatigue either delay recovery or aggravate the disease. Ocean voyages are of no benefit except in mild cases. A prolonged residence in a suitable climate is the best procedure, and the locality selected should have the following conditions: 1st, Surroundings which give relief to mental care and supply pleasurable diversion; 2d, an atmosphere which can give the greatest activity to the digestive processes; 3d, meteorological conditions which will not lead to chilling of the surface or "taking cold;" 4th, a warm, equable climate, which is generally a humid one, is not as beneficial as a cool and dry climate both in winter and summer; a dry, porous soil, a clear sky, with but little rain-fall, add to these advantages. In summer, for severe cases, the Catskills, Adirondacks, or White Mountains; in winter,

Western North Carolina, Northern Georgia, and other sections of the Appalachian chain fulfil the indications. Aiken and other similarly situated places were now better for those who cannot stand the cold of greater altitudes. He knew no reason why the high regions of the Rocky Mountain area might not answer as well, but based his paper only upon observations from personal experience and with Eastern climatic resorts. No published data as to the effect of this Western region, including Southern California, were accessible for reference or deduction. The paper was announced as only preliminary to a further and more extended consideration of a most important subject.

The Influence of High Altitudes upon Hereditary Tuberculosis, and its Effects upon some Forms other than Pulmonary.—Dr. H. B. Moore, of Colorado Springs, contributed a paper upon this subject. The presence of a large number of married phthisical invalids in many of the cities and towns of Colorado, notably Colorado Springs, had rendered pertinent the question as to the influence of these high altitudes upon the inherited predisposition of different forms of tuberculosis. Furthermore, the marked relative immunity from phthisis which exists at high altitudes, together with the radical improvement experienced by sufferers from phthisis who go there, has suggested the possibility that not only the pulmonary form of tubercular disease, but other forms, as bone and joint tuberculosis, may present examples of an analogous immunity and benefit.

With a view to determining these two points, letters of inquiry were addressed to practising physicians of Colorado. From the answers received, and from personal investigation, the conclusion is justifiable that tuberculosis in any form seldom originates in Colorado, even among those strongly predisposed by heredity. In other words, the climate of high altitudes is an efficient antidote to the tubercular diathesis. In Colorado Springs, for example, with a population of twelve thousand, composed almost entirely of phthisical invalids, notwithstanding the strong hereditary taint necessarily existing, there have been but seven instances of phthisis originating there during its entire history. With regard to cases other than pulmonary the preponderance of opinion was quite decidedly to the effect that their infrequency and the favorable results obtained were quite equal to what obtains in pulmonary phthisis, the inference being that the therapeutic influence is not so much a matter of chest expansion, and improvement in local nutrition consequent upon it, as it is a general tonic influence maintaining a high degree of nutritive integrity throughout the entire system.

The Climate of Southern Arizona.—Dr. Thomas Darlington, of Bisbee, Ariz., read a paper with the above title.

A Contribution to the History of Leprosy on the Eastern Coast of the United States.—Dr. W. H. Geddings, of Aiken, S. C., presented a communication concerning the simultaneous occurrence of three cases of lepra in one family. A list of all the cases of the disease that had occurred in Charleston, from 1847 to 1882, constituted seventeen in number. A few years later another case was seen by the writer. She was not a resident of the city, but of a neighboring village on the coast. Including the three described in the present paper, twenty-one well-authenticated cases have occurred within the last thirty-four years in and near Charleston. These cases throw but little light on the etiology of the disease. They were nearly all young adults or persons of middle age. They embrace every grade of society from the descendents of the old Huguenot families, who immigrated to this country hundreds of years ago, down to the humblest domestic servant. Four were Jews, and the others Christians; sixteen were whites, four mulattoes, and one a full-blooded negro. They were all natives, and with the exception of one, whose parents were Irish, their ancestors had lived in the country for a number of years. As the negroes predominate in this section the fact that only five out of twenty-one were colored would indicate that here this race is less liable to the disease than the whites. In one instance a mother and her daughter were affected with the disease, and in another a father and his son.

In South Carolina the disease appears to be confined almost exclusively to the sea-coast. It will be remembered that this is also the case in Norway. These unfortunates are in no way restrained, and when not too ill, may often be seen walking about the streets of the city. Their appearance excites commiseration, but no one fears to come in contact with them. They live with their families, but mingle freely with the outside world. The number of lepers in the city at any one time has varied from one to three, and as the disease has never evinced the slightest disposition to spread there has never been any fear of its becoming epidemic. How long this will remain the case is doubtful, as Dr. James C. White says that it is spreading rapidly in Louisiana and Florida.

Family History of the Three Cases.—Of the paternal grandparents nothing is known. The father was a Sicilian sailor. He made several voyages between Sicily and New York, but there is no reason to suppose that he ever visited countries in which leprosy is endemic He soon abandoned the sea and removed to Charleston, where he was engaged in business for a number of years, and eventually died there of congestion of the brain. The mother is a strong healthy woman, of native parentage, fifty-eight years of age, who has borne twenty children, eight of which are still living. On neither side is there any evidence that the ancestors suffered with lepra.

General History of the Development and Course of the Disease.—In the autumn of 1885 Charleston was visited with a severe cyclone, which inundated portions of the city with salt water from the adjacent rivers. The family inhabited a house in the inundated district, and had stored in the cellar some of their carpets and other household furniture. Two days after the flood, when the water had partially subsided, two of the sons, and one of the daughters, all of them apparently in perfect health, undertook to remove the damaged effects, and to accomplish this work were compelled to wade through water which reached to their hips. The water is said to have presented a dirty greenish appearance. They were engaged in this work for two days. On the evening of the second day, while drying themselves before the open fire, they all noticed a number of bullæ on the outer side of the left leg. These bullæ, at first about half an inch in diameter, gradually enlarged, and finally coalesced into large blebs extending from the external malleolus half-way up the leg. They were filled with a clear, serous fluid of a bright yellow color. In the course of two or three weeks these gradually dried up and desquamated, leaving purple spots, which later on assumed the appearance of white cicatrices. As the bullæ disappeared it was noticed that the affected area was devoid of sensation. The skin then assumed a brownish-yellow color, almost bronzed. Tubercles were developed over various portions of the body, but were larger and more sharply defined on the face and ears than elsewhere. Between the tubercles the skin was much thickened, in some situations hanging in folds, especially where it is loosely attached, as, for instance, below the lower lids. The natural wrinkles over the face were exaggerated into deep furrows. The tubercles over the eyebrows, nose, and ears were more prominent and larger than elsewhere, and with the thickening and wrinkling of the integument gave to the face the lion-like expression so characteristic of leprosy.

The following are, in brief, the clinical histories of the three cases:

Case I.—F. A——, is now twenty-four years of age. In the autumn of 1885, while apparently in perfect health, he assisted his brother and sister in removing their damaged effects from the flooded cellar. On the evening of the second day, while drying himself before the fire, he

observed a number of blisters on the lower and outer half of the left leg. The subsequent course of the disease corresponded in almost every respect with the general description just given. In this case the disease continued to advance for two years, during which the patient was quite ill and suffered considerably with pain in the parts affected. About the beginning of 1890 the general cutaneous hypertrophy began to diminish and sensation reappeared in many situations which hitherto had been anæsthetic. The general health of this patient is at present excellent, and he is quite sanguine of his ultimate recovery.

CASE II.—R. A—— , seventeen years of age, a younger brother of F. A——, was affected at the same time and in the same manner as the elder brother. Bullæ filled with serous fluid appeared on the external half of the left leg, chiefly over the ankle and knee, which after drying became white maculæ. These spots were devoid of sensation. The disease soon appeared on the face, then on the trunk, and finally on the upper extremities, pursuing the same course as in Case I., except that the general health was more seriously impaired.

CASE III.—A. A——, twenty years of age, a sister of the two young men, worked with them in the stagnant salt water, and like them had an eruption of bullæ on the outer surface of the left leg. These gradually dried up, leaving in their places white patches which were so devoid of sensation that a needle could be passed through the skin without causing the slightest pain.

Status Præsens.—The patient is slender and somewhat emaciated. The chest is flat and contracted, and for some time past the patient has had cough with evening fever. Her general appearance is that of a person well advanced in phthisis.

This is the only instance on record in this country, the speaker said, in which leprosy has attacked three members of a family at the same moment. All three had worked in stagnant salt water for two days and were simultaneously attacked while drying themselves before an open fire, and in each case it was the left leg that first presented evidences of the disease, and invariably on its external aspect. Whatsoever the remote cause of the disease may have been, no one will doubt that in these cases the exciting cause was heat acting upon skin, which had been previously softened, and perhaps irritated, by continuous immersion in salt water.

ASSOCIATION OF AMERICAN PHYSICIANS.

Sixth Annual Meeting, held in the Grand Army Building, Washington, D.C., September 22, 23, 24, and 25, 1891.

(Continued from p. 382.)

THIRD DAY, THURSDAY, SEPTEMBER 24TH.

The Relations Between Arterial Disease and Visceral Changes.—DR. GEORGE L. PEABODY, of New York, opened a discussion on this subject. The causes of arterio-sclerosis are varied, and it is hard to find the right one in every case. Whether due to syphilis or not, we cannot always say. There are different facts which assist us to look for the cause. We look for the lesion in the blood-vessels, and in particular in the arteries. From an examination of the intima of the artery it cannot be said what is the cause, just as in phthisis we find well-marked sclerosis, not tubercular in nature. Dr. George Johnson and Drs. Gull and Sutton have done the best work on the subject. They described a thickening of the walls of the arteries in Bright's disease, and said they were due to arterio-sclerosis. He thought it was in part due to the faulty methods of preparation, and particularly to the glycerine in which they had been preserved. This was much like a hyaline degeneration. During the past fifteen years much attention has been paid to this condition. Thomas has made some valuable contributions to this work, and his conclusions are very important. The cause of the fibrous growth has hitherto escaped detection. It is hard to find out which the cause and which the effect of the change in the kidneys and in the blood-vessels. After partial study he came to conclusions which we may in part accept. The interstitial inflammation in the kidney is the cause, not the effect, of the change in the arteries. The changes in the artery begin after birth. This change extends gradually. What causes this regular distribution of these lesions, and why are only the organs in question affected while the rest of the system escapes? First, there is a slowing of the blood-current in the aorta; the circulation in the two umbilical arteries ceases at birth; the arteries become disproportionately large. The result is that the blood-current passes through it more slowly. This cannot be demonstrated but must only be deduced. The new-growth in the intima tends to reduce the size of the artery, and this is due to the cessation of the circulation in the placenta. The same changes occur in arteries whose size is suddenly diminished by surgical procedure, ligature, etc. There is a lesion in the intima, the endothelium of the blood-vessel becomes affected, a dilatation takes place, a slowing of the blood current, changes in the vasa vasorum, a thickening; the sensitive nerve-filaments in the arterial walls appreciate the change in the vasa vasorum. The tension of the arterial walls is the cause of the form taken by the growth under different circumstances. As soon as the blood-current is settled the changes stop. The change is a purely mechanical one. The best explanation of it is *a priori* and theoretical. Diseased arteries give less blood to the organs than they require to have, and this goes on causing more and more change. One authority says that the alteration of the blood pressure in the vessels causes the trouble; if it is diminished the endothelium in the vessel grows. How can we explain this? The cause is hard to explain. It is a general disturbance of nutrition. We may have senile changes, changes in the arteries, veins, or capillaries, and these may occur in a great variety of conditions. It is seen with corresponding changes in the kidney, testicles, and other parts. Heredity, gout, rheumatism, functional arterial strain, according to Thomas, and many other causes may be at hand.

The effects of these changes in the arteries may lead to an aneurism. The connection from an etiological point of view is not fixed. It is not proved that arterio-sclerosis is the sole cause of this disease. The walls, being weakened, dilate, they are less elastic than normal. There is increased pressure and the lumen of the vessel is increased too. At first the intima of the artery is able to withstand the pressure, but later it cannot. This dilatation can be produced artificially in other vessels, but it cannot be done in healthy arteries. The time within which an aneurism can be produced while this change is going on is supposed to be one year, and after that time the intima becomes so reinforced that the aneurism cannot be formed. This is the rule for each vessel, so that as changes occur, first in one vessel and then in another, the danger of the formation of an aneurism in any one vessel would exist during one year after the vessel was affected; but as all the changes do not go on in all the vessels at the same time, the period of danger would be between thirty-five and forty-five years. We want stronger evidence of the truth of the statement than is given here. The diagnosis of this trouble can also be made from an ophthalmoscopic examination. The vessels are seen to be tortuous, pulsating, and there is an opacity in their walls, with diminished lumen. There may be anæmia of the central external artery, with varicose veins, and at times complete obliteration, while the rest of the arterial system is intact. The carotid vessels are generally early affected. It is a common cause of the left ventricular hypertrophy, which is caused by the overtaxation of the muscular fibres of the heart, with a diminution of the elasticity of the arterial walls. This is often of syphilitic origin, and in this case forms a com-

mon symptom. There is at times great disturbance of the brain function, and death has occurred without brain lesion being evident. The brain symptoms may be with or without thrombosis. If it is from syphilis it is amenable to treatment, but if not treated it is apt to go on to cerebral softening. He then related a case, in which some of the lesions were dependent upon arterial sclerosis, in which there was rupture of the diseased arteries. It may cause sudden blindness.

Dr. W. T. Councilman, of Baltimore, continued the discussion. Diffuse anterio-sclerosis is a very interesting study. The paper of Gull and Sutton was the first great work in this direction. It commonly begins in the kidneys, but at times it is apparent in other organs when the kidneys are free from it. He quoted Thomson's theory of it. He, in connection with Dr. William T. Howard, Jr., had examined 41 cases at the Johns Hopkins Hospital and had made three classes. 1st. The nodular form, which was of little interest. There are changes in the arteries and larger vessels, and there were large plaques in the intima of the vessels and their media was thin. 2d. The senile form, in which the vessels were calcareous and in them were fissures, loss of substance, etc. They were dilated, elongated, tortuous, broad, thinner than normal. 3d. Where there was also a change in the liver and kidneys. In the latter organs the cortex and medullary portion were both affected, but the cortex the most. The microscope showed process of atrophy and degeneration. Of 27 cases, the youngest was twenty-three and the oldest sixty; the rest were between forty and fifty-five. Of these 27, 14 were white and 13 colored. Most of them were of large build and muscular, and the most marked changes were found in the aorta or large arteries. There was some dilatation, but it was not homogeneous. The changes in the kidneys were not constant, the liver was increased in size, the lungs were little affected, and the pulmonary artery was free from disease. The most marked renal changes are degeneration and atrophy of the connective tissue. There were also changes in the media of the large and small vessels.

Dr. William T. Ord, of London, did not believe that the changes described by Gull and Sutton were caused by glycerine and other substances used in the preservation of their specimens, as Dr. Peabody suggested. He thought it was a general disease affecting the whole system, a disease similar to gout, and not a disease affecting one organ or one set of organs only. He referred to a very typical case which he had seen with Sir W. Gull, in which the cause was evidently due to eating and drinking. In England a large number of people eat often and heartily at night, and accompany their eating with frequent libations of strong wines. This, combined with a life of indolence or little exercise, tends to develop gout, arterial disease, etc. He believed it was very important to examine the great-toe joints in these cases. He examined the great-toe joints in 30 cases, and in 17 he found deposits, and of these 17, 12 had granular kidney; of the remaining 5, 3 had some change in the kidney.

Dr. W. T. Gairdner, of Glasgow, noticed that Dr. Peabody did not refer to dissecting aneurisms. He referred to a case of his own of sudden death in which there was kidney trouble, the death being due to a dissecting aneurism after a sudden strain. He was struck with the fact that Dr. Peabody gave the years of usual attack, with the assertion that this disease did not attack after a certain year. He also did not believe there was a difference in the two radial pulses, as Dr. Peabody had stated. He agreed with Dr. Ord in the connection between gout and this disease, and the peculiarity of London in this respect. In London there was a large leisure class that drank and ate much and took little exercise. Glasgow was not so prone to gout; was more so since the disappearance of Glasgow punch, for since the people had ceased to drink this comparatively harmless beverage they had taken to stronger and more dangerous drinks, with an increase of gout and arterial disease.

Dr. William T. Councilman, of Baltimore, did not mean to belittle the work of Gull and Sutton; he said they were pioneers in this direction, it was the first and best work, although they did make some mistakes and we have learned something more of the disease since their time, especially by our improved knowledge of histological methods. He thought the idea of examining the great-toe joint, as suggested by Dr. Ord, was an excellent one, and he should adopt it in the future.

Intestinal Perforation in Typhoid Fever.—Dr. Reginald H. Fitz, of Boston, Mass., read a paper with this title. He thought there were many contrary views concerning the prognosis of intestinal perforation in typhoid fever. Some observers claim that no case of recovery from intestinal perforation after typhoid fever ever occurs. There are now more and more reports of recovery from this complication of typhoid fever being offered. The symptoms of perforation may be present in the absence of this lesion, and the lesion may be present without characteristic symptoms. There are evidences of recovery from typhoid fever showing symptoms of perforation. The expulsion of pus, food, etc., from the vaginal walls is a sign of perforation, and if patients recover from this, why may they not recover from perforation? If possible, find the seat of perforation, and cut down on it and drain. To be successful this operation should be done early. Recovery has taken place in several cases by spontaneous discharge of the matter or by resolution.

Dr. J. M. Da Costa, of Philadelphia, said that when we think there is a perforation we should try to find out where it is. He related two cases of unsuccessful operation for perforation. In one case the operation was done six hours after the severer symptoms had set in. There was slight improvement at first, and the patient rallied and then died. In the second case the operation was done thirty-six hours after the symptoms of perforation set in; it was also fatal. He would never sanction an operation for perforation in typhoid fever. As soon as he could make out an appendicitis which produced a perforation he gave a bad prognosis.

The Relation of Drinking-water to Disease.—Dr. Henry P. Walcott, of Cambridge, Mass., presented a communication on this subject. The question of the influence of drinking-water in producing disease has not yet been satisfactorily answered. There certainly seems to be a close connection, but it cannot always be proved. The chemical examination of the water is no new thing. It may be chemically impure, and then it is, of course, unfit for consumption; but it may be chemically pure and be just as dangerous, if not more so. Certain pathogenic or disease-producing bacteria live and thrive in water, and these cannot be detected by chemical means. Also water which was so long considered as free from danger has been shown to contain disease-producing bacteria. The principal diseases spread by drinking-water are typhoid fever and Asiatic cholera. The former interests us the most at present. The bacilli of typhoid fever live and thrive in wells—wells and pumps containing water which to the senses is pure have been known to spread the disease to an alarming extent. Numerous instances of this are on record. The refuse of cities has been known to cause typhoid fever in cities below it on the same river, when that city uses the river water for consumption. The State of Massachusetts has appropriated a liberal sum for the investigation of the connection between drinking water and disease, and in taking the towns of Lowell, Haverhill, and Lawrence, it has shown the intimate connection between typhoid fever and the condition of the Connecticut and Merrimac Rivers. There is great need for a more general study of the water of this country.

Contribution to the Pathology of Pernicious Anæmia.—Drs. J. P. Crozier Griffiths, and Charles W. Burr, of Philadelphia, presented a paper with this title. The subject of the causes and nature of the various forms of anæmia was most obscure, yet some system of classification was necessary for the purpose of study. The authors

proposed a provisional definition of anæmia, and a classification of the various forms proposed; reference was made to the published instances appearing to prove the close relationship between various forms of anæmia.

In spite of these seeming objections to the existence of distinct forms, it is probable that some, at least, are entirely distinct; particularly that chlorosis and pernicious anæmia are to be sharply separated. The various theories of the pathology of pernicious anæmia were referred to, and details were given of their own observations upon the presence of iron in the liver, 1st, in several cases of pernicious anæmia; 2d, in various other diseases; 3d, in the case of several animals experimented upon by producing anæmia in different ways.

The following were the conclusions of the authors, based upon their studies up to June of the present year: Pernicious anæmia is a form of hæmolysis, and therefore a non-cytogenic anæmia. In one light the disease, broadly considered, need not be a unity. Thus, a very similar condition can be produced in dogs by the administration of certain chemical substances. Further, patients with bothryocephalus latus, or with atrophy of the gastric mucous membrane, may exhibit symptoms of pernicious anæmia. All these might be considered pernicious anæmia in a broad sense. The same is true of certain cases in which the lavage of the stomach has been followed by the relief of the symptoms of pernicious anæmia. The disease is not, however, to be looked upon as not a unity, or as a symptomatic condition following other diseased states. Tape-worm, putrefaction of the gastric contents, etc., may exist without the symptoms of pernicious anæmia developing.

Pernicious anæmia is rather a distinct affection, which may arise independently, but which may be superadded to chlorosis or any anæmic or other affection. Other anæmias resembling it, but due to any such cause as tape-worm or gastric atrophy, are rather to be considered as other forms of hæmolytic anæmia.

Pernicious anæmia may, then, be defined as an extreme and increasing anæmia, without marked loss of flesh, secondary to no known anatomical lesion, but due to the entrance into the blood of some certain hæmolytic agent whose origin is unknown, but which may be of the nature of a ptomaïne.

Changes in the Red Corpuscles in the Pernicious Anæmia of Texas or Southern Cattle Fever.—Dr. Theobald Smith, of Washington, D.C., presented a paper with this title. In 1889 he called attention to certain bodies within the red blood-corpuscles of cattle affected with Texas or Southern fever. After more extended study, including over fifty cases, he had found these bodies always associated with the disease. They are very likely parasitic protozoa, as they appear under several forms and exhibit amœboid movements on the warm stage. At the same he pointed out as the most striking feature of the disease a rapid reduction of the number of red corpuscles, which in many cases fell from a normal of 5.5 to 6.5 millions in a cubic millimetre to one million and less. The presence of the parasites in enormous numbers, and this great reduction of corpuscles seem to stand in the relation of cause and effect. During the repeated examination of blood from each case under observation, the decline in the number of corpuscles was invariably followed by certain changes in the corpuscles themselves. These changes consisted in an increase in their diameter, and in the appearance of a variable number of granules within them, visible only after staining with basic aniline dyes (methylene blue). These "punctuated corpuscles," as he had provisionally called them, appear when the reduction has reached a certain point, and increase in number as the decline goes on, until finally hæmatoblasts appear. At this point the disease usually terminates fatally.

The paper was limited to a description of their changes and a discussion of their nature, significance, and diagnostic value. In presenting this particular phase of the Texas fever investigations, he desired to make them available in the study of the various forms of pernicious anæmia in the human subject, the etiology of which is involved in obscurity.

Dr. William H. Welch, of Baltimore, was particularly pleased with Dr. Smith's paper. It was of great interest, and showed that all medicine is one study, and that the disease in animals and man is scientifically the same. The only difference is the dignity. The protozoa described by Dr. Smith act much as the organisms of malaria by getting into the blood-corpuscle and destroying it. The same kinds of blood-corpuscle as he described are to be found in human beings in some forms of anæmia. That this is all one process is not so clear to him. The same changes are observed in the blood in anæmia due to venesection.

Fourth Day, Friday, September 25th.

The Condition and Prospects of the Library of the Surgeon-General's Office, and its Index Catalogue.—Dr. John S. Billings, of Washington, D. C., said the question had often been asked what was the scope, present condition, etc., of the library of the Surgeon-General's Office. He could best answer those questions by giving a few statistics. There were 102,500 volumes in the library, and 152,000 pamphlets, by which he meant those publications of less than 100 pages. From July 1, 1886, to June 30, 1891, he had received 25,337 volumes and 55,900 pamphlets, or about 5,000 volumes and 11,000 pamphlets a year. About 2,000 to 5,000 came from the publishers annually. One-fifth of the library has been presented and four-fifths bought. It is the largest medical library in the world, and it increases faster than the population in proportion. Contains ninety per cent. of the literature published. It has defects. Many old books wanted! Has a good current library in all languages and from all nations. Old books cost so much, and the trouble to search for them through a large number of catalogues makes the books too expensive. The librarian and assistants are not mere functionaries, but show a great interest and love for the work, or it would not be so successful as it is. Twelve volumes of the Catalogue have been printed, and Volume XIII. is in press and manuscript for two more has been prepared. The trouble and care necessary to making a Catalogue can never be appreciated. Books are catalogued by letter two or three times, and also by authors. As the Catalogue goes on new material comes in, so that when the Catalogue is completed there will be enough matter for several volumes of Appendix. A few errors have been discovered, about fifty in the first volume. The "Index Medicus" should be mentioned in this connection. It is a labor of love, and is published through the liberality and generosity of Mr. George S. Davis, of Detroit, the receipts barely meeting the expense of publication. In 1890 there were four hundred and eighty-two subscribers, most in this country and many in foreign countries. The future prospects of the library are excellent. The more it is known the more it is used. Many volumes are unbound because the present laws compel all binding to be done at the Government Printing Office, which is totally inadequate to do so much work. It is to be hoped that these laws will be changed and the binding can be done in the library building itself.

Dr. W. T. Gairdner, of Glasgow, remembered with pleasure Dr. Billings's visit to Glasgow many years ago, and how he took back to America with him what looked to be a mass of unsorted rubbish, but which, under Dr. Billings's orderly hand was soon arranged in its proper place.

Sequel to a Case of Slow Pulse.—Dr. D. W. Prentiss, of Washington, D. C., presented some further details concerning a case previously reported to the Association under the title of "Case of Remarkably Slow Pulse." The patient was brought before the meeting on two successive

years—1889 and 1890. From May 24, to July 2, 1890, the symptoms continued as previously mentioned. The pulse ranged from 13 to 21 per minute, with frequent spells of syncope; toward the last almost constant delirium, and for the last few days he wandered restlessly about the house in constant fear of being shot. July 4, 1890: More delirious and restless than usual; thought several parties were trying to kill him. Screamed with terror, "Murder, fire," etc., until the neighborhood was alarmed. Finally was induced to lie down on the bed. His wife left him for a few minutes, and on returning found him dead. When the pulse was the lowest, these attacks of syncope would be worse. He had no apparent disease of the heart or of the other organs. It was functional slow pulse, and was a very unusual case. He thought there were very few such cases on record until he went to the library, where he found, to his surprise, ninety-three cases under that heading, and many under other headings.

Autopsy of a Case of Slow Pulse.—Dr. R. T. Edes, of Washington, D. C., presented the report of the post-mortem findings in a case of this nature. The sympathetic and vagus nerves on both sides, and the cardiac plexus, were examined with negative results, except that on the left side where the recurrent laryngeal turns round the aorta and gives off cardiac branches there were some slight fusiform enlargements. The microscopic examination of the nerves and of the medulla oblongata will be given. The heart itself was slightly enlarged, but not fatty or dilated.

Dr. W. H. Welch, of Baltimore, asked of Dr. Edes if he examined the nerve in question with one on the other side, because enlargements are to be found on all nerve ganglia, and these are not constant, and sometimes the ganglia are spread along exactly as described by Dr. Edes.

The Effect of Pilocarpine on the Color of the Hair.—Dr. D. W. Prentiss, of Washington, D. C., showed some specimens illustrating the effect of pilocarpine on the hair. This was a young woman with light brown hair. He had been giving her one sixth grain two or three times a week for six weeks. Her hair changed from light brown to dark brown, or from dark brown to black. Lately he had another case somewhat similar. She was an old lady of sixty-eight. He gave the fluid extract of jaborandi. He noticed that her eyebrows turned from gray to black, and one lock of hair, which was white, turned a dark brown; the rest began to turn when she died.

Grave Forms of Purpura Hæmorrhagica.—Dr. J. H. Musser, of Philadelphia, read a paper on this subject. He divided all cases into idiopathic and symptomatic, and reported several fatal cases—cases with joint complications and ulcerations, and cases with œdema and sloughing of the skin of the scrotum, penis, etc. He made a report on the negative results of the bacteriological examination in one case, and described a coccus much like the staphylococcus pyogenes aureus.

Dr. W. H. Welch, of Baltimore, thought that the coccus described by Dr. Musser was the ordinary skin coccus, which is found sometimes deep in the skin, as the methods of cleansing as described by Dr. Musser were not sufficient to destroy this organism.

Dr. William Pepper, of Philadelphia, referred to two cases of purpura in his own practice in which there was extensive sloughing, and in both cases there was complete suppression of vision in the left eye. He had had also two cases of rötheln, which disease was endemic in Philadelphia just after the influenza. In both cases there was extreme hemorrhage with fever—105° F. to 106° F.—followed by sudden recovery.

Dr. D. W. Prentiss had presented a case last year to the Society, and the result was the cure of the case. The lung had frequent and prolonged hemorrhages, which did not yield to large doses of arsenic. He brought him before the Society, and at its suggestion used phosphorus, with a cure as the result. The boy owed his life to the Society.

Dr. J. E. Graham, of Toronto, had used the phosphide of zinc, but not phosphorus; was glad to hear of its advantages, and would use it.

Dr. Theobald Smith, of Washington, D. C., had examined the blood in Dr. Prentiss's case and remembered having found tinted corpuscles.

Bradycardia in Acute Articular Rheumatism.—Dr. I. E. Atkinson, of Baltimore, presented a communication on this subject. Bradycardia, or unduly slow heart-action, he said, is a symptom observed in a variety of disorders apart from those in which there is manifest disturbances of the central nervous system. It is not infrequently observed during convalescence from acute febrile disease, when it disappears, usually with the re-establishment of health. Much more uncommonly it develops at the outset or during the active period of such disease. It is thus rarely observed during an attack of acute articular rheumatism; more often, but still quite infrequently, it occurs during convalescence from acute articular rheumatism. In the former case it probably depends upon pericarditis or endocarditis, whereby the innervation of the heart is impaired. In the latter case it is probable that in some instances it is still due to these causes, though it may also depend upon the same influences that excite it during convalescence from other acute specific febrile diseases, and which are apparently not inflammatory.

Dr. H. P. Bowditch, of Boston, said there were two sets of nerves to the heart, one set inhibitory, and one stimulating. Paralysis of the stimulating nerves might produce these effects. It was hard to say whether we have to do with a paralysis or a stimulation. We cannot say that the same nerve fibres exist in men as we know exist in animals, although this is probable.

Dr. William T. Ord, of London, thought that robust, stout people usually had slow pulse, due, he thought, to weakening of the whole system, or nervous system in particular. There is slow pulse in rheumatism when the temperature is somewhat high. Thinks that the pneumogastric nerves play an important *rôle* in rheumatism.

Dr. I. E. Atkinson, of Baltimore, thinks it is a stimulating influence, but this is purely an idea.

AMERICAN ASSOCIATION OF ANDROLOGY AND SYPHILOLOGY.

Fifth Annual Meeting, held at the Shoreham Hotel, Washington, D.C., September 22, 23, 24, and 25, 1891.

(Continued from p. 384.)

Third Day, Thursday, September 24th.

Hæmaturia.—Dr. W. K. Otis, of New York, read a paper with this title, in which he stated that the diagnosis of hæmaturia usually offers no great difficulties; the mechanism of micturition, chemical examination of the urine, instrumental exploration of the bladder, and, finally, the resorption test, furnishing sufficient points for diagnosis. If the locality of the hemorrhage is in the anterior urethra, the blood will flow continuously; if it is situated in the posterior urethra—the pars prostatica—the flow of blood will not be continuous. The urine itself will be clear. If the point of hemorrhage is in the interior of the bladder, the blood is intimately intermixed with the urine. Blood-clots in the urine—the long coagula, like worms—indicate renal hemorrhage, representing casts of the ureters. If the coagula are short and broad, they originate in the bladder. If the specific gravity of the urine is low, renal hemorrhage is indicated; on the other hand, if it is normal or high, vesical hemorrhage. Vesical hemorrhage is also indicated when ammoniacal fermentation is present. If the microscope reveals casts containing blood-corpuscles or hyaline casts, the hemorrhage is from the kidney; if only vesical epithelium is

found, the hemorrhage is from the bladder. When the examination of the urine is negative, instrumental examination of the bladder and the resorption test are usually conclusive. Before making the instrumental test the bladder should be thoroughly washed out; then, when the catheter is moved about, the bleeding will immediately commence anew if the point of hemorrhage lies in the bladder. The resorption test is made with a solution of potassium iodide, which is injected into the bladder by means of a soft catheter. It is an established fact that if iodide of potassium is brought into contact with a point capable of resorption, iodide can be demonstrated in the saliva after a very short time—not more than fifteen minutes, and in hæmaturia this indicates that the hemorrhage is from the bladder. When the bleeding is not too profuse, the electro-cystoscope is of great value in establishing a positive diagnosis.

DR. TAYLOR stated that Dr. Otis might add to his paper a fact he already knows, and that is, that in severe cases of urethritis a little blood might flow from the anterior portion of the urethra, due to the contractions of the muscular fibres upon the mucous membrane.

DR. BRYSON stated that he had seen many cases of renal hemorrhage where the specific gravity of the urine was still high, and remained fairly so. Sometimes different layers of urine in the bladder were of different specific gravity, and he considered it best not to lay too much stress upon that point.

Clinical Notes on (*a*) Hypertrophy of the Prostatic Sphincter; (*b*) Relation of Rectal Distention to Arterial Depression.—DR. WILLIAM T. BELFIELD, of Chicago, read a paper with this title. He stated that hypertrophy of the prostatic sphincter, occurring secondarily to vesicle irritation from stone, etc., is a well-known condition; but that occurring as an apparently independent affection, without discoverable antecedent morbid changes, it is less generally recognized. Dr. Belfield then gave the history of two patients, one aged nineteen and the other twenty-seven, upon whom he had operated within the past year and discovered a hypertrophied condition of the prostatic sphincter. The author closed his paper by suggesting whether in these cases there may have been an antecedent morbid condition in the bladder, and whether this hypertrophy of the prostatic sphincter may not be a frequent cause of vesicle irritability. In his second paper Dr. Belfield stated that at a previous meeting of the Association he had mentioned the fact that irritation of the mucous membrane of the rectum in dogs produced a decided arterial depression, amounting sometimes to fifty per cent. Since then he had noticed that in operations upon the bladder, or other operations where the rectal bag was employed, there was a marked lowering of arterial tension, which disappeared when the bag was withdrawn.

Notes on the Surgery of the Prostate.—DR. WISHARD, of Indianapolis, in a paper on this subject, stated that bladder surgery, particularly in more recent years, suggests the following principles: First, that a large percentage of cases of prostatic cystitis which are not susceptible of relief by palliative treatment can be more or less permanently relieved by surgical interference. Second, that perineal and suprapubic incisions are the two methods best calculated to accomplish the results sought. Third, that neither one of these operations is suitable in all cases, and that both may sometimes be required. Fourth, that the objects of radical operation should be the removal of the mechanical obstruction and to secure rest and drainage for the bladder. Dr. Wishard then gave some of the advantages of the various methods of operation employed in these cases, and said that the fact must be borne in mind that at the time many prostatics apply for treatment the mechanical obstruction is by no means the most serious condition present Resulting renal disease, loss of muscular power, and thickening and diminution in the size of the bladder render more or less futile both palliative and radical efforts at relief in such cases.

The two preceding papers were discussed together.

DR. J. BLAKE WHITE, of New York, said that a short time ago a patient came under his care who manifested very distressing symptoms of vesical irritability; the bladder and right ureter were made out to be in a dilated condition. Suprapubic cystotomy was performed, and the prostatic sphincter was found to be retracted. The sphincter was dilated with the finger, drainage was kept up for fifteen days, and the patient made a satisfactory recovery.

DR. JOHN P. BRYSON, of St. Louis, stated that he considered the two papers just read both interesting and instructive. Dr. Belfield, some years ago, had called attention to the fact that irritation about the vulva, genital organs, and rectum lowered the blood-pressure. Dr. Bryson did not consider this failure of the heart which follows operations about the bladder as merely a mechanical affair, but as a general nervous disturbance, perhaps in some way allied to urinary fever, and as something which must be guarded against by the surgeon.

DR. W. K. OTIS, of New York, stated that last year he reported a case in which a tumor of the prostate was removed, about the size of the end of a man's thumb, and eight ounces of residual urine were withdrawn. It is now about eighteen months since the operation, and the patient is in perfect health. Dr. Otis said that he had passed a catheter the other day and found no residual urine in the bladder.

Observations upon the Surgery of the Ureter.—DR. ARTHUR T. CABOT, of Boston, presented a communication on this subject. These observations, Dr. Cabot stated, were the result of some investigations upon the anatomy of the ureter with reference to its surgical accessibility in different parts of its course, and with the especial object of determining how best to reach and remove impacted stones in the ureter. The author takes it for granted that, if possible, it is always best to use the extra-peritoneal incision for the removal of a stone. Dr. Cabot stated that the search for the ureter is much simplified by a knowledge of the fact—which he does not find mentioned in any description of its anatomy—that it is in relation with that part of the peritoneum which becomes adherent to the spine. After the ureter dips down into the pelvis it is not so easily located, because it does not bear any fixed relation with a bony landmark, but, fortunately, in the cases in which a stone is sought in in it, we have a hard body that is readily felt to guide us to it. To reach the ureter in the upper part of its course, Dr. Cabot said, perhaps no better incision can be chosen than that planned by Israel. He draws a line from a point on the anterior edge of the sacro-lumbar mass of muscles, just below the twelfth rib, and parallel to it; then turns downward toward the middle of Poupart's ligament to the line of incision usually made for tying the iliac artery; then again turns toward the middle line and ends on the external border of the rectus muscle. According to the location of the calculus, the incision can be made on the posterior, middle, or anterior third of this line.

DR. WILLIAM T. BELFIELD, of Chicago, stated that while he had had no personal experience in connection with surgery of the ureter, he had had occasion to expose the base of the bladder, and could see the advantages of the incision suggested by Dr. Cabot. He desired to express his obligations to Dr. Cabot for his admirable paper.

Exhibition of Complete Double Ureters of Both Kidneys.—DR. EDMUND E. KING, of Toronto, presented specimens of complete double ureters of both kidneys. Dr. King said that in ten post-mortem examinations made by him he had found three cases of supernumerary ureters.

The Dry Poultice in the Treatment of Epididymitis.—DR. GEORGE E. BREWER, of New York, read a paper with this title. The object of his contribution, Dr. Brewer said, was to call attention to a method of treatment which he has found especially useful in the manage-

ment of gonorrhœal epididymitis, and which, although considerably employed in France, has not yet received much attention in this country. This method of treatment is a simple dressing, consisting of a moderately thick layer of cotton-wool applied over the inflamed testicle and covered by a layer of thin rubber protective tissue, so as to completely enclose the diseased organ and overlap the healthy skin of the scrotum. This is snugly secured by a gauze bandage, and the whole held in place by a suspensory. Such a dressing, the author stated, meets all indications in cases of acute epididymitis; the pain is speedily relieved, and there is rapid absorption of the inflammatory induration.

Dr. John P. Bryson, of St. Louis, said that he was greatly interested in Dr. Brewer's paper, and especially where it referred to the rapid absorption of the inflammatory induration. He wished to inquire whether this method of treatment caused the disappearance of those little fibrous nodules, or lessened their number.

Dr. James P. Tuttle, of New York, asked how much pressure should be applied in bandaging the testicle.

Dr. Brewer stated that he had not noticed the disappearance of the fibrous nodules referred to by Dr. Bryson. His cases were dispensary patients, and soon lost sight of. In answer to Dr. Tuttle's question, Dr. Brewer said that only a moderate amount of pressure was required.

Fourth Day, Friday, September 25th.

On the Radical Cure of Urethral Stricture by Restoration of the Mucous Membrane to a Healthy Condition, by Dr. John P. Bryson, of St. Louis. Stricture of the urethra, Dr. Bryson said, is a chronic contracting peri-urethritis, caused by the leakage of urine or some of its constituents through a damaged or absent mucous membrane. This pathological definition enables us to accept a more definite and better classification of strictures, and appears more available than that of Vollmemier, which divides them into inflammatory and cicatricial, the first being still lined by mucous membrane, damaged though it be, the last by none at all, the mucosa having been replaced by cicatricial tissue. Any therapeutic procedure, therefore, Dr. Bryson stated, must primarily aim at a restoration of the mucous membrame to the normal state, and this is exactly what surgeons of to-day are doing in so many cases with most flattering success. The author stated that his entire treatment of stricture was based on the theory that if the mucosa could be restored to a normal condition while the stricture band was undergoing softening and inflammatory involution, a radical cure could be hoped for. Linear strictures, Dr. Bryson said, are often permanently benefited by the use of the sound only, but he considers this method entirely inadequate in the case of annular strictures. He then gave the history of a case of annular stricture which was treated by cutting and divulsion a number of times with only temporary relief, and which was radically cured by intermittent dilatation, combined with topical treatment directed to the restoration of the lining mucous membrane.

Treatment of Urethral Stricture, by L. Bolton Bangs, of New York. Dr. Bangs defined stricture of the urethra as an unnatural narrowing of the urethral canal in any part of its entire length. That portion of the urethra described by anatomists as the bulbous portion is the largest in calibre, both in the adult and in infantile life, and is capable of the greatest amount of physiological distention. Dr. Bangs stated that he desired to reaffirm his belief in the principle formulated by Dr. Otis, namely, that the human urethra bears a proportionate relation to the size of the penis in which it is contained, and that this fact must be recognized in order to determine how to give radical and humane treatment for an infirmity which concerns so many. The treatment of strictures by divulsion, the author said, he considered both non-surgical and non-scientific. The effect of the instrument is distributed more or less beyond the strictured area, and the resulting cicatrix is an irregular and ofttimes a violently contracting one. Electrolysis, also, he does not approve of. Where a sufficiently strong current is employed to have any effect upon the tissues at all, it acts as an irritant and produces inflammatory deposits. Dr. Bangs regards gradual dilatation as sufficient for soft non-fibrous strictures of the posterior urethra or in the bulbous or penile portion, but for all strictures of large calibre requiring interference he advocates treatment by internal urethrotomy and complete division. If the stricture is of small calibre, or be complicated by fistulæ, either in the penile urethra or perineum, or if there be indurated cicatricial deposits posterior to four and one-half inches, he advocates, in connection with internal urethrotomy, an external perineal urethrotomy also, and combined with prolonged perineal drainage.

The Treatment of Urethral Stricture and Its Resulting Conditions by Extreme Gradual Local Distention and Without Cutting; Including a Brief Résumé of Fifty Cases.—Dr. James P. Tuttle, of New York, read a paper with this title, in which he said that perhaps the best practical definition of stricture was that recently given by Dr. White, in the words "Stricture is an abnormal lessening of the calibre or the dilatability of the urethral canal, associated with changes in the mucous, muscular, or submucous structure constituting its walls" As to the question so frequently discussed, What are the normal constrictions of the urethra and what relation do they bear to its normal calibre? Dr. Tuttle said that he has made measurements of the dilated mucous membrane in fifty cadavers and in more than one hundred living subjects; these observations were made upon healthy urethræ and in all cases certain constrictions and dilatations were found, all more or less uniform and no doubt perfectly normal. These he considers natural anatomical conformations and they demand from the surgeon careful consideration and conservatism. The author said that he practised internal dilating urethrotomy for eight years, but that recently he abandoned the cutting process in most cases and substituted treatment by extreme local distention, that is, at the strictured spot only. With this object in view Dr. Tuttle has devised a new instrument, called a urethral dilator, which he has used for some time and with which he has obtained good results in these cases.

The three foregoing papers were discussed together.

Dr. Robert W. Taylor, of New York, stated that the profession is apt to run to extremes in the treatment of strictures. To Dr. Bangs, the speaker said, is largely due the credit of introducing perineal urethrotomy, which is a most admirable and beneficial procedure in certain cases.

Dr. W. K. Otis, of New York, said that in cases where the strictures were situated in the posterior urethra, and surrounded by hard, cicatricial deposits, it seemed useless to try to remove them by any but the surgical method of external urethrotomy.

Dr. John A. Fordyce, of New York, said that he considered Dr. Bryson's definition of stricture—a chronic contracting peri-urethritis—as an excellent one, but that in his opinion it did not always depend upon an infiltration of urine; that in some instances it was caused by the entrance of the gonococci (or the chemical products they give rise to) into the glandular or epithelial tissues.

The discussion of these papers was continued by Dr. L. Bolton Bangs, of New York; Dr. Bryson, of St. Louis, and Dr. Palmer, of Louisville.

Treatment of Gonorrhœa, by Dr. W. Frank Glenn, of Nashville. In his paper Dr. Glenn said that he has met with great success in the treatment of gonorrhœa by the use of mild solutions of chloride and iodide of zinc. The strength he usually employs is one-half grain of the chloride and one grain of the iodide to the ounce of water. This solution can be further diluted if necessary, and is to be injected into the urethra three or four times daily.

Dr. Taylor stated that the personal element entered very largely into the treatment of gonorrhœa, and a second person cannot always obtain such good results by following the same course of treatment. Chloride of zinc he considered very useful in some cases, in the declining stages of urethritis, but he would be very loath to use it for deep injections. The iodide of zinc he has never used.

Dr. William Judkins, of Cincinnati, stated that he has had considerable success in certain cases by applying on a sound, the yellow oxide of mercury, or introducing it into the urethra on a small piece of cotton.

Dr. L. Bolton Bangs, of New York, stated that he coincided with what Dr. Taylor had said about the personal element in the treatment of gonorrhœa—not only of the physician, but of the patient also. Dr. Bangs said that he was ready to welcome any remedy that will shorten the period of the disease.

Dr. Otis said that salol was recommended for gonorrhœa at last year's meeting. He had given the drug an exhaustive trial, and had seen nothing produced excepting a little dark-colored urine.

Adjourned.

AMERICAN ORTHOPEDIC ASSOCIATION.

Fifth Annual Meeting, held at the Arlington Hotel, Washington, D. C., September 22, 23, 24, and 25, 1891.

(Continued from p. 386.)

Third Day, Thursday, September 24th.

Malignant Disease of the Spine Simulating Pott's Disease.—Dr. Judson reported three cases, in which Pott's disease and malignant vertebral disease had been confounded by himself and other observers. The first patient, a boy of four years, died three months after the appearance of symptoms. The other patients, men, aged respectively thirty-five and forty-two years, survived the first symptoms one or two years. In each case an autopsy was made correcting the ante-mortem diagnosis in two cases, and confirming it in one. In no case was there distinct kyphosis. In two cases there was paraplegia, the paraplegia dolorosa of malignant disease and not that of Pott's disease. The chief symptoms were general prostration, and pain and disability located in the back. These patients were very ill, which cannot well be said of most patients affected with Pott's disease. They had severe pain and extreme disability in the back, which Pott's disease is so free from that when we hear of pain in the back and spinal disability the first thought is to eliminate spinal caries. In brief, the chief diagnostic points are, 1, deformity, present in Pott's, absent in malignant, disease; 2, local disability; and 3, local pain, both absent in Pott's and present in malignant disease.

Prognosis of Pott's Disease.—Dr. Samuel Ketch, of New York, considered the prognosis from the following stand-points: 1, region; 2, age; 3, etiology; 4, complications; 5, thoroughness of treatment. Seventy-five cured cases were considered. In the superior region, first cervical to third dorsal, the average time of treatment for obtaining a cure was $26\frac{1}{5}$ months. In the middle, third to tenth dorsal inclusive, $64\frac{8}{15}$ months. In the inferior, tenth dorsal to fifth lumbar, $47\frac{11}{12}$ months. Twenty-eight cases presented for treatment were from one to five years of age; 31, from five to ten years of age; 16, above ten years of age. Seven cases gave unmistakable evidence of traumatism as a cause. These required a much shorter period of treatment than the remaining 68, sixty per cent. of the total number. The latter, as a rule, gave evidence of a tubercular diathesis. Abscess was frequent in the middle and inferior areas, nearly fifty per cent. developing them during the course of the disease. Treatment must be carried out over a long period of time in order to obtain good and permanent results; the tendency to early removal of apparatus is to be deprecated. Under thorough mechanical treatment abscess is frequently prevented, and when present often disappears. While it is known that recession of deformity has occurred in some cases, no positive statement could be made about this point. As a rule, slighter deformities could be prognosticated in the superior and inferior than in the middle area, where the deformity, as a rule, attained its largest growth. Paraplegia may be looked for more frequently in the superior and middle regions, rarely in the inferior.

Proposed Treatment of Pott's Disease by Wiring the Vertebral Processes.—Dr. B. E. Hodra, of Galveston, Tex., said that wiring of the vertebral processes would secure firmness of the column, forming a posterior brace to the parts needing immobilization, thereby securing rest to the diseased vertebræ. The bodies where the chief trouble is located will by leverage be removed from each other, and their rubbing and pressure on each other be avoided. The operation would seem to be most desirable when the first symptoms of deviation appear. If large abscess cavities have formed already, it may be safer to allow the vertebral bodies to come into close contact. The speaker believed that there was practically no danger in the operation, and that it would shorten the tedious treatment by braces.

The Operative Treatment of Tubercular Caries of the Spine.—Dr. De Forest Willard, of Philadelphia, divided operative treatment for this disease into three divisions: 1, for pus accumulations; 2, for the removal of carious bone; 3, for the relief of paraplegia.

His conclusions were: 1. Recumbency, extension, mechanical support of the diseased vertebræ after anchylosis has resulted, are exceedingly important preventions of and additions to operative procedures. 2. Dormant and caseating foci may well be treated on the expectant plan. 3. Liquefaction and caseating collections should be tested with the aspirator and injected with iodoform emulsion; the operation being repeated unless pus is discovered. 4. If sero-purulent fluid is drawn, injections may still be relied upon to assist the system in conquering and limiting the tuberculous process. 5. When true pus is present, the abscess should be incised, the cavity washed out by a long-continued flow of hot sublimate solution, but manipulation should not be practised upon the walls of the sac, lest a fissure be occasioned and entrance of tubercular poison into the system be facilitated. The incision should be carefully sutured, and from thirty to sixty grains of iodoform injected and retained in the cavity. 6. When the situation oi the abscess is in the lumbar region and the case permits, the sac should be thoroughly removed. 7. Drainage-tubes should not be retained longer than necessary. 8. When excision of the wall is impossible, free incision and drainage, coupled with iodoform injections, are palliative. 9. Excision of diseased bone tissue is feasable only when it is situated in the arches. Removal of laminæ for the relief of pressure paralysis is only to be employed after a thorough trial and failure of long-continued horizontal extension, counter-extension, and fixation; and where the pressure is posterior to the cord.

The Operative Treatment of Spastic Paralysis.—Dr. W. N. Bullard, of Boston, read a paper on this subject by Dr. Charles L. Scudder, with remarks by himself on the nervous phenomena of the case of paraplegia reported. So far as is at present known, the causative lesion is of the central nervous system in the motor tract. Treatment by drugs, electricity, and operations on the cerebral lesion have failed. Apparatus applied to the limbs, no matter how well fitted and carefully managed, accomplishes nothing permanent. In the opinion of Dr. Bullard, practically all cases of spastic paraplegia in children not due to transverse myelitis are of cerebral origin. The case reported had hydrocephalus and a spina bifida, and Dr. Bullard shows by conclusive reasoning that the cerebral, and not the spinal, complication must be considered as the cause of the spastic paraplegia in this case.

Treatment of Pott's Disease, with Especial Reference to the Early Stage.—Dr. Bernard Bartow, of Buffalo, said that when treatment is begun in the early stage of

vertebral osteitis, therapeutic agents are of greater efficiency than in any subsequent stage of the disease. The pathological conditions in the early stage favor this view. The focus of the disease is small; the form of the vertebral body is unchanged; and neural disturbances are of a modified type. Restraint of movement favors encapsulation of the focus of the disease. Complete arrest of the disease occurs without angular deformity in a large percentage of cases by appropriate treatment. The period of treatment is shorter by at least one-half. Prognosis is greatly modified, owing to the rarity of abscess, paraplegia, and secondary infection. Functional exercise acting upon the diseased bone, is the agent which is chiefly instrumental in favoring the extension of the disease, by the invasion of new tissue. Reflex muscular contraction is much less prominent in the early stage, and spinal distortion must be chiefly depended upon for the diagnosis. Treatment is by the use of a jacket of some plastic material, made upon a corrected cast of the patient's body made during suspension.

Pott's Disease in Middle and Advanced Life.—Mr. Howard Marsh, of London, related a number of cases of disease of the spine in old people, and said in conclusion that he regarded them as examples of tuberculous disease rather than osteo-arthritis, for the following reasons: 1. These patients did not present that disease in any other part. 2. I am not aware that osteo-arthritis produces angular curvature. 3. Many of these cases suppurated, a result very rare in osteo-arthritis. 4. So trustworthy an observer as Sir James Paget states that he has himself met with tuberculous disease of the spine in old subjects. 5. There can be no doubt that tuberculous disease of other parts is by no means very rare in the old. 6. These cases are exactly similar to cases of tuberculous disease of the spine as we see it in the young.

Cervical Spondylitis.—Dr. L. A. Wiegel, of Rochester, reported the case of a boy eight years of age, who for two years suffered from paralytic symptoms, which compelled him to retain the recumbent posture. He was unable to sit up, even for a few seconds, without intense pain in the head. A retro-pharyngeal abscess developed in the course of the disease. The treatment by recumbency, combined with traction by means of weight and pulley, gave prompt relief from pain and rapid improvement of the paralytic symptoms.

Recumbency in the Treatment of Pott's Disease.—Dr. A. Morgan Vance, of Louisville, said that some cases, in spite of any brace, would continue to have pain, have lateral deformity, would not tolerate head support, or whose parents would not conduct the brace treatment properly. Such cases should be treated by recumbency, and invariably do well. In no case has any injurious effect been traceable to the recumbency.

Extension in Bed in the Treatment of Caries of the Spine.—Dr. C. C. Foster, of Cambridge, Mass., said that extension was applicable in caries of all parts of the spine, but was especially useful in caries of the cervical region. It reduces deformity, pain, inflammation, and liability to abscess. It makes the disease less exhausting, shortens its duration, and minimizes the amount of repair demanded. Extension is obtained by small weights, the cords running over the head and the foot of the bed, and attached to waist-belts, chest-belts, or Sayre head-straps. Such treatment cannot be carried out in out-patient and tenement-house cases. It is however the ideal treatment during the active stage, and no ill effects will be observed from the prolonged confinement in bed.

Fixation and Traction in Pott's Disease.—Dr. R. H. Sayre, of New York, divided the sources of trauma to the spine into: 1, super incumbent weight of the body above the point of disease; 2, concussion; 3, reflex muscular spasm; 4, movement. It is necessary to avoid all injury and irritation of the diseased part. The essentials of treatment are traction to the point of comfort and fixation of the diseased area. In the acute stage of some cases recumbency may also be necessary, but it is better to combine an out-of-door life with the treatment if possible. Recumbency alone is not enough. The posterior spinal splint combined with recumbency fails to counteract the reflex muscular spasm, for which traction is demanded. The straps and aprons of these splints also restrict respiration.

The plaster jacket can be made to fit better if made directly upon the patient than if made upon a cast. Jackets that are not properly shaped about the waist, so as to be supported from the hips, are most objectionable, inasmuch as they not only fail to give the needed traction, but because the weight of the jury-mast and jacket by slipping down is added to the weight of the patient's head and bears upon the diseased spine. An amusing case was referred to, where an orthopedic surgeon placed a cushion upon the child's head to receive the weight of the jury-mast and jacket, which should have been supported from the hips, and in its turn should have supported the head and relieved the downward pressure upon the point of disease. In very small children the wire cuirass and jury-mast are used. In paraplegia traction combined with strong counter-irritation are advised.

Comparative Value of the Prevalent Methods of Treatment of Caries of the Spine.—Dr. E. H. Bradford, of Boston, grouped the methods of treatment as follows: by recumbency; by mechanical appliances; and by plaster bandages and corsets. Of that by recumbency, it may be said to be of great value in the acute stage, and where there is great disability in getting about, disinclination to walk and run, and more contentment when lying or sitting. The patient should be kept on his back with a proper arrangement of pads, and fixed by straps so that no sitting up or turning in bed is possible. It should be arranged so that the patient can be carried about freely, and receive the benefit of open air. Traction may at times be added with great assistance. This is the most efficient way of preventing increase of the curvature; but it cannot be continued till the cure is effected. When general nutrition begins to fail after a long period of recumbency, it should be discontinued. Mechanical appliances are an essential part of the treatment of every case at some stage of the disease, to enable the patient to go about without danger. The mechanical appliance which has been found most useful has been based on the principle of the antero-posterior leverage brace. Where head supports are necessary, the jury-mast, the wire support, the Thomas collar, or the Taylor oval ring, are used. Where the surgeon possesses the requisite skill and experience and the parents will give proper attention, mechanical appliances furnish the most efficient means of treatment. The permanent plaster jacket should be used where great care cannot be given by the parents. All plans mentioned may, in any given case, be required severally in the course of the treatment.

Fourth Day, Friday, September 25th.

A Further Contribution to Typhoid Spine.—Dr. V. P. Gibney, of New York, related the case of a man forty-five years of age, who, twenty-two years ago, had typhoid fever followed by pain in neck and back of head, and later down the arms. After a few weeks the pains subsided, but he has remained with a prominence in the cervico-dorsal region and a torticollis.

A Brief History of the Use of Suspension in Pott's Disease.—Dr. Benjamin Lee, of Philadelphia, gave a history of suspension and traction in Pott's disease and other spinal affections, from the time of Hippocrates to the present day, and showed that the credit for having devised this plan of treatment is not due to Professor Sayre, as is generally supposed, but that it was practised most enthusiastically centuries ago. To Dr. J. K. Mitchell, of Philadelphia, belongs the credit of having, in 1826, introduced into this country this treatment of Pott's disease; and to Dr. Lee should be accredited the honor of having first used self-suspension in the treatment

of Pott's disease, lateral curvature, spinal pressure, paralysis, and the condition known as spinal irritation. Dr. Lee's first paper was in 1866; since which many subsequent writings on the subject have been published. By a letter, written May 17, 1877, Professor Sayre acknowledges that the credit is due to Dr. Lee.

The Treatment of Congenital Dislocations of the Hip.—Dr E. H. Bradford, of Boston, showed photographs of appliances for the treatment of a case of double congenital dislocation of the hip-joint, which, for the last three years, had been treated according to the method of Dr. Buckminster Brown. The modifications from Brown's method were such as to allow the patient to be carried about, but not to stand. At the present time the patient is allowed to walk about, wearing protective appliances such as are used in the convalescent stage of hip disease by Dr. Taylor. These appliances are made of aluminum, and are light. The result so far has been that the trochanter has been brought down from its position upon the ilium three-quarters of an inch, and has remained in this position. The patient is beginning to walk about. There is at present some lordosis, but the lateral gait has entirely disappeared.

On Elongation of the Ligamentum Patellæ as a Factor in the Production of Certain Knee Troubles and Difficulties in Locomotion.—Dr. Newton M. Shaffer, of New York, reported a number of unique and interesting cases where the patellar tendon had become elongated from various causes.

Observations on Torticollis, with Particular Reference to the Significance of the So-called Hæmatoma of the Sterno-mastoid Muscles.—Dr. Royal Whitman, of New York, said that from a review of the literature and clinical observations he had concluded that congenital torticollis is usually of intra-uterine origin, and not the result of giving way at birth as stated by many writers. He presented a report on two hundred and sixty-four cases of torticollis, showing that the affection is more frequent in females than males, and the sides of the neck are equally liable, although the opposite opinion usually prevails. Finding that acquired torticollis is often the result of enlarged or suppurating cervical glands, and in such cases not persistent in character, he concludes that the deformity should be treated in the early stage by some appliance which holds the head in perfect position. Such appliances provide rest for the inflamed parts, and prevent the permanent shortening of muscles and fascia which quickly appears in young and rapidly growing children. If the deformity has persisted for more than six months mechanical treatment is usually inefficient, and in these cases free and early division of all contracted parts, with careful after-treatment, is indicated.

Ten Cases of Excision of the Knee-joint.—Dr. Joseph D. Bryant, of New York, reports four cases in detail, six having been previously reported, and considers the lessons which may be learned therefrom. He believes that excision of the knee-joint is admissible for the following conditions: 1. When remote or unsound anchylosis appears to be the only result that can be reasonably expected. 2. When mechanical and remedial measures, faithfully applied, have failed to afford any permanent relief. 3. For vicious anchylosis, or for deformities that cannot be overcome under anæsthesia combined with tenotomy or extension. 4. As a substitute for the expectant plan of treatment, when the unfavorable surroundings of the patients, or the slow course of the disease, make hopeless or even doubtful a recovery with sound anchylosis. 5. When remote or unsound anchylosis appears to be the only means of securing a serviceable limb.

He also pointed out the advisability of operating at once when kidney disease is found to exist, as a presumptive consequent complication.

Apparatus for Making Traction.—Dr. William E. Wirt, of Cleveland, presented a new traction-brace of unique design, devised by Dr. Karl von Klein, of Cleveland. The racket and lever are used in principle somewhat similar to the levers of Lagarousse, with the difference that the force of the lever is transformed into rectilinear motion, which, in the levers of Lagarousse, and nearly all the usual forms of racket-levers, is transformed into circular motion. The claims for the brace are: that no key, screwdriver, wrench, buckle, or strap is used to adjust it; that it is easy to adjust and regulate; that it is not bulky, or bunglesome; and that it has a fine adjustment. The form of movement may be adjusted to any form of traction-brace.

Rheumatic Spondylitis.—Dr. George W. Ryan, of Cincinnati, said that the symptoms have a close resemblance to tuberculous spondylitis before the stage of deformity, and unless there be a history of rheumatism, it may not be possible to make the diagnosis sure. There is difficulty in locomotion, rigidity, and pain. Later on the kyphosis appears, but it lacks the angularity of Pott's disease, and more resembles the kyphosis of senility. The prognosis is bad. The treatment should be directed to relieve the pain: a support, local blistering, the Paquelin cautery, and internal medication. One case was reported in detail.

The Definition and Scope of Orthopedic Surgery.—Dr. V. P. Gibney, of New York, read a paper intended to define and to mark out the limitations of the practice of orthopedics. It was in a measure a reply to the paper: "What is Orthopedic Surgery?" by Dr. Newton M. Shaffer, read at Berlin on August 5, 1890. The writer did not wish it to be understood that American orthopedic surgeons limited themselves to the use of splints and straps and buckles. He believed that the orthopedic surgeon should be competent and feel himself free to use any means within the range of operative surgery to bring any case under his care to a successful termination, without help or hindrance from the general surgeon, who did not hesitate to operate upon cases of knock-knee, bow-legs, and club foot, which surely come within the range of orthopedic practice. He pointed out how so many unnecessary relapses occurred as are met with as the result of the work of the general surgeon, and showed it to be because the general surgeon failed to appreciate the necessity for the use of apparatus in the after-treatment, and lacked the knowledge of how to apply this apparatus. He would enlarge the definition of orthopedic surgery and make it read thus: Orthopedic surgery is that department of general surgery which includes the prevention, the mechanical treatment, and the operative treatment of chronic progressive deformities.

Scoliosis in Its Relation to Flat-foot.—Dr. Paul Redard, of Paris, sent a communication, calling attention to the dependence of certain cases of scoliosis upon nasal stenosis, and the relation of so-called static scoliosis to flat-foot. In these cases the triangle between the arm and the side is lessened on the side of the lumbar convexity; the posterior-superior iliac spine on that side is lower, the buttock flatter, really or apparently shorter, the inner malleolus lower, and the foot in the position of valgus, and at times a truly painful flat-foot. Statistics of one hundred cases were cited. Treatment should be directed to remedying the flat-foot and correcting the shortening of the extremity, as well as to the correction of the curvature itself.

A Contribution to the Pathological Anatomy of Scoliosis.—Dr. F. Beely, of Berlin, said that traction and pressure, according to the degree, the manner, or the length of time which they may act, may cause an increase or a cessation of the development of the osseous tissue in a vertebra, increasing the horizontal diameter, diminishing the thickness on the side of pressure, and increasing the thickness on the side of traction. At the epiphysis, however, the growth of the bone seems to be affected differently, the proliferation of tissue being generally in the direction of the greatest pressure. The speaker then pointed out the differences between the vertebra of a child and that of an adult. The increase in that of the adult

is in the anterior portion subjected to the strongest pressure, while in the posterior portion—the convex side—a flattening of the vertebræ, including the spinous process, is found when viewed in horizontal projection. The changes there having taken place, the body having become wedge-shaped and changed in its diameters, rotation takes place. As the body rotates while the arch remains fixed, a break occurs in the antero-posterior axis of body and spinal process, and from one it becomes two lines joined in a greater or less angle. The result is that in the dorsal region the *paraspinous sulcus* is very shallow and broad on the concave side, and deep and narrow on the convex side. In the lumbar region we should expect this peculiarity to still hold in its relations to convexity and concavity, but it is not so—the shallow sulcus is here on the side of the convexity, and deep on the side of the concavity. This is explained by the absence of the ribs in the lumbar region.

The Operative Treatment of Deformities Following Infantile Spinal and Cerebral Spastic Paralysis.—Dr. De Forest Willard, of Philadelphia, has operated upon a large number of cases, and he believes that there are but few which cannot be more or less benefited. Even when incapable of walking upon the limbs, artificial support and mechanical appliances following thorough rectification of the deformities, will add greatly to the comfort of the patient. His conclusions were: The deformities of infantile paralysis can be prevented by apparatus, but if this has been neglected and distortion has occurred, secure the best possible limb by immediate surgical procedures, and make the patient walk in some way. Many apparently hopelessly distorted cases can be put upon their feet; even great deformity of limbs resulting from infantile paralysis, should not deter us from an attempt to straighten the limb, and give the individual locomotion. Atrophied limbs can be straightened, and can then be incorporated as a part of an apparatus; locomotion is thus to a certain degree rendered possible. Easier, quicker, and better rectification is secured by surgical than by mechanical measures in the majority of cases. Immediate rectification, if possible, should be the rule in order to save pain and time. Mechanical appliances in the shape of apparatus crutches, wheeled crutches, etc., are usually required and should be employed after straightening. Excision is capable of straightening even badly deformed limbs, and continuous improvement may be expected.

Tenotomy and myotomy do not cure the disease in either form of paralysis, but the results are most helpful in promoting the health and happiness of the individual. Wheeled crutches are very helpful in getting these helpless individuals upon their feet. These supports can be made of inexpensive material, and on a simple plan. In spastic cases relapse is much more common than in infantile paralysis, but the great benefit to the body and mind of the individuals that is secured by locomotion amply repays for the attempt at rectification.

The Operative Treatment for Spastic Paralysis.—Dr. L. A. Weigel, of Rochester, N. Y., reported a case of a very severe grade of this affection, in a girl fourteen years of age, treated by division of the shortened tissues and the subsequent application of apparatus. The result, as shown in photographs, was exceedingly good.

Injuries to the Sacro-iliac Junction.—Dr. Benjamin Lee, of Philadelphia, completed the histories of the cases reported upon at the last meeting, and added two new cases. The treatment is by an apparatus which makes strong compression of the pelvis laterally, and also practically limits forward bending. To enable a patient to pick up an object from the floor, an ingenious device, called a "teledactyl," has been devised. It consists of a spring forceps at the end of a cane, operated by a cord carried to the handle and provided with a ring for the forefinger. The lower end of the forceps is slightly bent in order to accommodate it to the horizontal plane of the floor, and the jaws are somewhat serrated.

The Diagnostic and Prognostic Value of High Temperature in Chronic Joint Disease.—Dr. R. W. Lovett, of Boston, sent a paper in which he said that high temperature is the constant accompaniment of acute hip disease and Pott's disease. The rise occurs independently of the formation of pus, and cases with unopened abscesses do not, as a rule, present a higher temperature than those where no abscesses are to be detected. The afternoon rise is from one to four degrees, and in a general way the rise is greater in the severer cases. Convalescent cases, and cases in the later stages who are doing well, are more likely to present normal temperature, and the occurrence of high temperature is to be accounted a warning of trouble.

AMERICAN PHYSIOLOGICAL SOCIETY.

Fourth Annual Meeting, held at the Arlington Hotel, Washington, D. C., Tuesday, September 22, 1891.

(Continued from p. 387.)

Third Day, Thursday, September 24th.

Some of the Influences Which Determine the Strength of Voluntary Muscular Contractions.—Dr. W. P. Lombard, of Clark University, Worcester, Mass., read a very interesting paper on the various influences which determine the strength of voluntary muscular contractions. Dr. Lombard conducted all of his experiments upon himself, and it was not until he had made a large number of experiments, so that it became a matter of routine, that he was able to forget that he was conducting them upon his own person and obtain satisfactory results. All of his experiments were made upon the second finger of his left hand and with the flexor muscles only. The first and third fingers were inserted in stiff metal tubes, which were in turn securely fastened in clamps fastened to a table. The second finger was then attached to a cord running over a pulley to which a weight was attached. At the same time his apparatus was so arranged that each contraction of the finger muscle and the power exerted were faithfully recorded on a tracing paper.

Dr. Lombard said the weight was raised with all the strength I was capable of exerting each and every time I flexed my finger, until a time was reached when I could no longer raise the weight, and this point I called the point of fatigue.

Loss of Power Due to Fatigue of the Central Nervous System.—The point where I could no longer lift the weight was due to the fatigue of some part of the central nervous system. When this point was reached I applied electricity to the muscles of the second finger, which resulted in a firm contraction, showing that the muscles were not fatigued. That it was not the will-power that was affected was conclusively proven by the fact that when I detached my finger from the weight I had no difficulty whatever in contracting the muscles. Therefore, the loss of power must lie somewhere in the nervous system between the finger muscles and the brain.

Influences of Food, Sleep, Exercise, Weather, Alcohol, and Tobacco upon the Power of Muscle Contraction. Food.—I found, after eating a slight amount of food, that it increased the power of contraction for a short period, after which the curve again descended to where it was before the repast. As to the length of time necessary for the food to show its effect, sometimes it required ten minutes, and at other times half an hour.

Sleep.—As is the case with regard to the restoration of the various functions of the body, I also found that sleep exerted a great influence in restoring the strength of the muscle contraction.

Exercise.—In regard to long-continued exercise, I found that for about one week my power steadily decreased until about the sixth day, after which there was a steady increase of power until about the twentieth day, when it had increased enormously. On the first day I

was able to raise the weight but thirty times before reaching the point of fatigue, and on the last day I was able to raise the same weight seven hundred and seventy-eight times. The absolute time employed in these experiments was about six and three-fourths hours, so that the power was increased more than twelve times.

Influence Exerted by the Weather. The Barometer.—After working for a period of several months I found that it was not the height of the barometer that exerted the greatest influence, but whether it was rising or falling, and I found that my muscular power increased with a rising barometer, but fell with a falling one. If the barometer rose during the day or fell less than on the preceding one, my strength increased. On the other hand, if it fell more than on the preceding day there was a corresponding falling off of muscle power. I also noted that my power was greater at 6 P.M. than it was at 4 P.M. This at first I could not understand, until I found that the barometer undergoes two diurnal changes. I also found that my strength also underwent like changes. Thus, I was strongest at 10 A.M., and weakest at 4 P.M., and after this hour again increasing. It was suggested to me that if such was the case, then my power should be greater at 10 P.M., and after a series of experiments I found this was an actual fact, and I did have a 10 P.M. maximum power.

Again, in another one of my experiments, after trying my power in a valley, I ascended a mountain, and after my system had time to get accustomed to the increased altitude I found my power actually stronger at 4 P.M. than it had been in the morning, and that too at a time when it would have been at its minimum in the valley. I then descended, and I found my power decreasing as I reached the lower altitude.

Temperature.—I was working in June when the extremely hot wave came on. At first I did not notice any loss of power, but on the third day of the excessive heat my muscular power fell considerably, and remained low until the temperature fell. As the temperature fell my power increased rapidly, until at the end of three days' time my power again reached its highest point.

Humidity.—When the temperature was high I found that as the percentage of humidity increased my strength fell off much more rapidly than it did during a warmer period, when the percentage of humidity was low. I also found that, even though there was a high percentage of humidity, if the temperature was not high there was but very little decrease in muscular power. So that great humidity and high temperature combined exerted a very marked effect on muscular power, whereas slight variations of humidity without a high temperature exerted but very little influence upon it.

Alcohol.—During one of my experiments I took a small glass of wine, and on looking over the record on the apparatus I found that at the time my power went up greatly. The next morning I again took some wine, and the result was the same. That night I took some whiskey and water, and the effect was most remarkable; my power increased so much that it went higher than the tracing-paper on my apparatus would record. The experiment with the whiskey was repeated a few days afterward, with precisely the same results.

Tobacco.—One evening, at a time when my power should have been rising toward its maximum, I smoked a cigar, and to my surprise I found immediately afterward my strength dropped down to a point very near its minimum. This experiment I repeated in the morning; first testing my power and then smoking a cigar, and the record showed a great falling off in strength. This decrease lasted for some time, until the effects of the tobacco had had time to wear off, after which my power again returned.

Is the Mind Similarly Affected with the Nervous Centres of the Muscles?—On this point I can say, from observations made upon myself and others, that more and better work can be accomplished by the brain in the morning up to 11 A.M. than can be effected after that hour. The period of greatest decrease of mental activity I found to be between 3 P.M. and 4 P.M., and after 4 P.M. the mind again increased in activity until after 6 P.M., and it was as active as before 11 A.M. This has a practical bearing on the fact that students rarely accomplish any work in the afternoon, and that their best work, which is accomplished between the hours of 7 P.M. and 12 P.M., is due to an increased activity of the brain, and not to the quiet that prevails during those hours.

During the discussion which followed DR. J. W. WARREN, of Boston, Mass., asked if the alcohol and tobacco effects were extended over any number of experiments.

DR. LOMBARD replied that if he smoked before each observation, for a certain number of days, the power fell throughout those days, but when he stopped smoking his power again returned.

DR. WOOD, of Philadelphia, wanted to know how the ordinary laborer, who smoked constantly, was able to accomplish any work.

DR. LOMBARD replied that when he smoked he sat in a chair, whereas the laborer was moving about. The laborer also performed his work in a very slow manner, while his contractions of muscles were done quickly. The individuality of the comparison must also be taken into account.

DR. WOOD objected to the experiment on the tobacco being made upon himself, on the ground that in his own experiments upon himself, with various poisonous drugs, he found that he was unable to overcome the power of imagination, and that he thought he felt their poisonous effects when he actually had not.

To this objection DR. LOMBARD stated that such imagination could possibly have had no effect whatever on his results, owing to the fact that he had always considered tobacco in the light of a stimulant, and was surprised to find the effect directly the reverse. In regard to the increased power caused by the effects of the alcohol, he stated that he took but very small quantities, and whether there would have been a depressing after-effect from larger quantities, he was unable to say. However, he would say that there was positively no depressing after-effect from the small quantities taken by himself, and there was a remarkable increase of power after taking it.

DR. H. P. BOWDITCH, of Boston, Mass., followed with the reading of a paper on "The Fatigue of Nerve-fibres Studied by Means of the 'Action' Current."

Diurnal Changes in Nerve-cells as the Result of the Normal Activity and Rest of the Animal.—DR. C. F. HODGE, of Worcester, Mass., read a paper on this subject. He presented a series of experiments, and in all of these he showed that there was a decided shrinkage in the nuclei of all the nerve-cells examined in the evening, compared with those examined in the morning. He exhibited a number of specimens of his work, under the microscope. His experiments were not yet completed, as he had up to the present confined them to birds and bees, but it was his intention to finish his experiments on mammals.

A New Bacterial Product from Typhoid Germs.—DR. V. C. VAUGHAN, of Ann Arbor, Mich., read an abstract from a paper on a new bacterial product which he had obtained from typhoid germs, which had something of a definite chemical composition. It dissolves in water and forms an acid solution, and contains no sulphur. The question for him to decide is, whether it is a bacterial product, or whether it is not a part of the bacterial cell. This new substance is highly poisonous. When injected into animals it causes a rise of temperature and death. Ten milligrammes injected into a guinea-pig caused its death in half an hour.

The session was closed by the reading of a paper on the "Size of the Cranial Nerve in Man," by DR. H. H. DONALDSON, of Clark University, Worcester, Mass.

ASSOCIATION OF AMERICAN ANATOMISTS.

Third Annual Meeting, held in the Grand Army Building, Washington, D. C., September 23, 24, and 25, 1891.

FIRST DAY, WEDNESDAY, SEPTEMBER 23D.

President's Address.—The meeting was called to order by the Acting President, DR. FRANK BAKER, of Washington, who opened the session by paying a glowing tribute to the memory of the late President, Professor Joseph Leidy, whose death had occurred since the last regular meeting.

The Secretary followed with the reading of a report of the Secretary and Treasurer of the Association, after which ballots were cast for the election of thirteen candidates for membership, all of whom were declared duly elected.

On motion the chair was directed to appoint a committee to nominate officers to serve for the next two years; also a new member of the Executive Committee to serve for a period of one year.

Dr. Harrison Allen, of the Committee on Anatomical Nomenclature, reported progress. Said report being accepted.

After all the regular business was finished, the Association then proceede ' with the reading of papers.

The Systematic Use of the Eye in Teaching Anatomy.—DR. WILLIAM P. CARR, of Washington, D. C., read a very interesting paper on this subject, and accompanied the reading by a demonstration of a brain model.

Some Impressions on the Teaching of Anatomy to Medical Students.—DR. HARRISON ALLEN, of Philadelphia, read a short but very clear paper on this subject.

The Study of Anatomy from a Physiological Standpoint.—DR. REYBURN read a paper on this subject, at the finishing of which all three papers were discussed together by Drs. Charles Heitzman, of New York; Frederic Gerrish, of Portland, Me.; Theodore Nicholas Gill, of Washington, D. C.; Francis John Shepherd, of Montreal, Canada; and by request, Professor D. J. Cunningham, of the Dublin University.

SECOND DAY, THURSDAY, SEPTEMBER 24TH.

The session was opened with a continuation of the discussion of the preceding day, on the teaching of anatomy, and was participated in by Drs. Carr, Allen, and Baker.

The Arrangement of the Supra-cerebral Veins in Man.—DR. WILLIAM BROWNING, of Brooklyn, N. Y., read a very interesting paper on this subject, and which bore on Hill's theory of developmental rotation of the brain. Dr. Brown illustrated his reading with the aid of models and drawings. The paper was discussed by Dr. Baker

Fissures of the Cerebrum.—PROFESSOR D. J. CUNNINGHAM, of the Dublin University, read a paper on the central, pre-central, and post-central fissures of the cerebrum. This paper elicited a somewhat lengthy discussion on the part of Drs. Gill, Allen, Carr, and Baker.

Morphological Importance of the Membranous or Other Thin Portions of the Parietes of the Encephalic Cavities.—DR. WILLIAM BROWNING read a short paper on this subject, which had been written by DR. BURT G. WILDER, of Cornell University.

The Alleged Lateral Orifices, Communications of the Fourth Ventricle with the Subarachnoid Space. Are they Natural?—The paper on this subject, read by DR. BROWNING, was also written by DR. WILDER. This paper was a reply to part of Dr. F. W. Langdon's paper, "Homology of Cerebro-spinal Arachnoid with the Other Serous Membranes," which was read at the Boston meeting in 1890.

The Structure of Basic and Cement Substance.—DR. CHARLES HEITZMAN, of New York City, read an elaborate paper on this subject, which was afterward discussed by Dr. Baker.

At this point of the meeting the rules were suspended, and balloting for several candidates for membership proceeded with, all of whom were declared duly elected. Professor D. J. Cunningham, of Dublin University, was then elected an honorary member of this Association.

Serial Fœtal Sections.—DR. W. M. GRAY, of Washington, D. C., exhibited a number of sections of the human fœtus which were mounted on frames and accompanied by photographs, and explanatory remarks upon the sections.

DR. ALLEN followed with remarks upon "The Teeth of the Chiraptera."

DR. W. H. PANCOAST, of Philadelphia, by invitation of Acting-President Baker, made some very instructive remarks upon the metacarpus and its nomenclature.

The title of a paper on "Recent Fissural Diagrams," by DR. BURT G. WILDER, was read by DR. WILLIAM BROWNING, and printed copies circulated among the members present.

The day's session was closed by remarks by DR. F. H. SHEPHERD, of Montreal, on "Supernumerary Digits in Man and the Pig," and illustrated the same by the exhibition of specimens.

THIRD DAY, FRIDAY, SEPTEMBER 25TH.

Election of Officers.—The morning's session was opened by the reading of the minutes of the two preceding days. After the Secretary read a report from the Auditing Committee, the nomination of officers to serve during the next two years was proceeded with, and the following were elected to the respective chairs: *President*, Dr. Harrison Allen, of Philadelphia, Pa.; *First Vice-President*, Dr. Charles Heitzman, of New York City; *Second Vice-President*, Dr. Theodore Nicholas Gill, of Washington, D. C.; *Secretary and Treasurer*, Dr. Daniel S. Lamb, of Washington, D. C.; *Member of the Executive Committee*, Dr. E. C. Spitzka, of New York; *Delegate to the Congress*, Dr. Francis S. Shepherd, of Montreal, Canada; *Alternate*, Dr. Robert W. Shufeldt, of Washington, D. C.

The Relative Frequency of the Psoas Parvus Muscle in the Colored Race.—DR. E. A. BALLOCH, of Washington, D. C., read a very interesting paper on this subject. He stated that in his dissecting-room, whenever sought for, this muscle was found on both sides in the negro subject, and the absence of it was the exception to the rule—so much so, that when it was absent on either side a note was made of it.

Dr. Balloch's experience was substantiated by that of Dr. Carr.

This paper caused quite a lengthy discussion, in which it brought out the fact that these muscles invariably existed in the ape, and that it would be very desirable to keep a record of all cases where they existed, both in white and negro subjects.

DR. ALLEN stated that under the present method of conducting dissecting-rooms it would be a very difficult matter to obtain reliable statistics on this subject, and offered a resolution to the effect that this Association should have a number of circulars printed and distributed to all the anatomists of the various schools throughout the country, calling their attention to this fact, and requesting them to institute a search for these muscles in all subjects and keep an accurate record of the results obtained. This resolution was adopted.

Anomalies.—During the discussion on the paper just read, DR. GERRISH stated that in speaking of anomalies, he wished to call attention to a very remarkable case in his own experience. The subject was the body of a married woman who, while living, gave no signs that would indicate any abnormalities. The post-mortem examination gave the following results: The foramen magnum was so small that he could only insert the point of his small finger. The right kidney was missing, and the left one was about fifty per cent. larger than a normal one should be. The bladder was an enormously large one, very thin and flabby. The uterus was bihorned. So un-

usual was it for four such striking abnormalities to exist in one subject that he called in three other physicians to examine the body with him.

Comparative Osteology of the North American Pygopodes.—Dr. R. W. Shufeldt read a paper on this subject, illustrating his remarks with anatomical specimens and upon the blackboard.

Supra-condyloid Process in Man.—A paper on this subject was read by Dr. Daniel S. Lamb, of Washington, D. C., who exhibited some specimens showing these processes very distinctly.

Platycnemic Tibias.—Dr. Frank Baker made some remarks bearing upon this subject, and exhibited some very fine specimens.

Dr. G. W. West followed by reading a very elaborate paper upon the history of anatomy as a science.

Mr. Frederick A. Lucas, of Washington, closed the reading of papers by reading one "On the Homologies of the Principal Bones," and exhibited some very fine specimens mounted in cases. He also exhibited a specimen of congenital union of the quadrate jugal to the mandible in a cockatoo, with remarks upon the same.

The session was brought to a close by the reading by the Secretary, in the absence of their writers, the following papers by title only: "The Fossa Prænasalis," by Dr. Thomas Dwight; "Notes on the Hearts of Certain Animals," by Ida Hyde; "Certain Modifications in Plant Morphology Produced by External Conditions," by Dr. W. P. Wilson.

AMERICAN PEDIATRIC SOCIETY.

Third Annual Meeting, held at the Arlington Hotel, Washington, D. C., September 22, 23, 24, and 25, 1891.

(Continued from p. 388.)

Third Day, Thursday, September 24th.

Hip-disease in Colorado.—Dr. John M. Keating, of Philadelphia, sent a paper entitled "Tubercular Ostitis of the Hip, Originating in Colorado," which was read by Dr. W. P. Watson. The case was that of a boy, aged six years, whose family history was tubercular, the father having died of phthisis not long before the birth of the boy, which occurred in Colorado.

Laryngeal Tubes for Forcible Respiration.—Dr. J. O'Dwyer, of New York, gave an exhibition of laryngeal tubes for the performance of forcible respiration. He showed the apparatus, which consisted of a curved tube with a cone-shaped extremity grooved so as to hold its place between the vocal cords, and a piece of rubber tubing attached to a bellows. The exhibitor detailed his idea as to the advantages of the method of forcible respiration. The tube could be readily introduced through the mouth and the conical end would by its grooved lines be held in position in the larynx. The bellows could be easily managed by working with one foot, and artificial respiration maintained for a long period. He advocated its use in opium, chloroform, and other forms of poisoning as superior to the means usually taken to produce artificial respiration.

Dr. W. P. Northrup, of New York, thought that the method of forcible respiration by means of this tube would prove of service in many cases.

Dr. C. P. Putnam, of Boston, said that the simplicity of the invention was in its favor.

Dr. W. D. Booker, of Baltimore, asked if the apparatus could be used in the newly-born to overcome atelectasis.

Congenital Wryneck with Facial Atrophy.—Dr. William Osler, of Baltimore, read a paper on "The Association of Congenital Wryneck with Facial Hemiatrophy." The paper included the notes of a case that had been observed by the author, and the literature of the subject. He stated that all the cases recorded had shown the condition to exist on the right side with apparent hypertrophy of left sterno-cleido-mastoid muscle. In none of the cases had there been progressive wasting. A positive explanation of the pathological condition had not been made.

The Application of Gavage in the Treatment of Uncontrollable Vomiting in Infants.—Dr. Charles G. Kerley, of New York (by invitation), read a paper with the above title. In advocating this method the author of the paper advised that the child should not be held erect as in stomach washing, but be kept in a semi-recumbent position. The operation should be done quickly and predigested food introduced. He had found that Paine's adult nasal feeding-tube, No. 13, was preferable to the ordinary soft catheter used in stomach washing. He believed that he had saved life by this method.

Dr. L. E. Holt, of New York, added his testimony to the efficacy of gavage in the vomiting of infants.

Dr. W. D. Booker said that the results reported showed the advantages of gavage as detailed in the histories of the cases detailed.

Dr. J. O'Dwyer gave as his opinion, based on cases of forced feeding in children after intubation, that the food had always been rejected. The patients were most of them over eighteen months, and not so young as those treated by the author of the paper.

Dr. C. P. Putnam thought the method of great interest and value.

Dr. H. Koplik, of New York, had listened with interest to the histories of the cases. He desired to know why when infants had vomited that the stomach had not been allowed to rest. He wished to know what advantage gavage had when food had been rejected?

Dr. A. Seibert, of New York, believed that in stomach catarrh in infants there is always a similar condition of the pharynx and mouth. When the tube was introduced into the stomach the food reaches the stomach without being contaminated by the condition of the upper passages; thus the food would be received without the admixture of material, which would be apt to interfere with its digestion or produce further disease.

Dr. Kerley concluded by expressing his belief that he had saved by gavage the lives of infants who had failed under all other plans of treatment.

Scurvy in Children.—Dr. W. P. Northrup, of New York, read a paper and presented microscopic slides with drawings of scorbutus in children. Nine typical cases were collected from New York, and the Board of Health had the records of sixteen more fatal cases under five years of age which had occurred in the past twenty years. England seemed to have furnished most of the literature on the subject. The paper showed that the most diagnostic symptoms and signs were pain and swelling over the femora, with a sponginess of the gums. On a dietary of fresh vegetables, fruit, and milk the patients had recovered. Orange-juice was craved by all of the children.

Dr. Holt had reported a case to the author which at the time he had believed to be scurvy. Death and an autopsy since had confirmed the views he had had of the case. His history agreed with the picture given in the paper.

Dr. Booker gave the history of a patient which corresponded in every particular with the typical case narrated by the writer of the paper.

Dr. J. H. Fruitnight reported a case of scorbutus in a girl of five years. He regarded the disease as rare.

Dr. Putnam, had observed three cases of scorbutus in children, of which one had died. Proprietary foods and condensed milk had had something to do in producing the disease.

Dr. A. Jacobi, of New York, had missed in the paper the definition of what had been called scurvy. He desired to know whether bleeding from the gums should be considered a characteristic feature. The association of scurvy with some of the hemorrhagic diseases he believed to be a close one. In scurvy the hemorrhage does not

occur into the joints, but is limited by the epiphyseal line. He would not place subperiosteal hemorrhage as the most diagnostic symptom, because it could be observed in other diseases. The speaker would like to know the conditions of the blood-vessels, and thought the subject offered a great field for investigation.

DR. NORTHRUP closed the discussion by a statement that subperiosteal hemorrhage, with some swelling of the gums, with or without hemorrhage, should be regarded as scorbutic. Prompt recovery should also be looked for under appropriate treatment. He aimed to stop where his facts stopped. No one could to-day explain blood dyscrasias.

DR. S. S. ADAMS, of Washington, read by title his paper on a "Study of Fifty Cases of Chorea." He then exhibited a patient, a boy, aged nine years, showing pseudo-hypertrophic paralysis.

Nephritis in Children.—DR. L. EMMETT HOLT, of New York, reported two cases of acute primary nephritis in infants. The author gave the details of the clinical histories. The first patient was six months old and died after an acute illness of seventeen days, the predominating symptoms being continuous temperature of a high remittent type, dulness, apathy, and anæmia. Mild gastro intestinal symptoms were present. There was no dropsy or suppression of urine. The second case was thirteen months old and the symptoms very similar, and lasting twenty-two days; the temperature ranged from 101° to 105° F. The autopsies in both cases showed a very extensive and well-marked acute diffuse nephritis. The first child had never had any infectious disease, the mother stated, and there were no throat symptoms and no signs of desquamation. The last child had been under observation in an institution for eight months prior to the fatal illness, and had had no sickness during that time.

Chronic Nephritis in Children and Young Adults.—DR. HENRY JACKSON, of Boston, sent a paper with this title, which was read by DR. PUTNAM. The article was based on reports of cases observed in private and hospital practice. The author thought that the text-books had perhaps neglected the disease, and that it might be of much more frequent occurrence than we had been led to suppose. The clinical observations of the patients seen by the author were carefully made and recorded. He gave no therapeutics for the disease, as the paper was a narration of symptomatology.

Scarlatinal Nephritis in Children.—DR. J. L. SMITH, of New York, read a paper on this subject. While he regarded this form of kidney disease as associated with a microbic origin, he did not think that it should be lost sight of that exposure to cold would often induce an attack of nephritis. The paper was an exhaustive one and dealt with the subject as a continuation of the paper read by the author at the first session.

Discussion on Nephritis.—DR. A. SEIBERT, of New York, had put to himself the question, Where had the infection come in the cases of acute nephritis reported? He desired to call attention to the mild acute tonsillar attacks in infants which might originate nephritis. Varicella might also be the starting-point of kidney disease.

DR. FORCHHEIMER, of Cincinnati, thought that the predisposing influence in scarlatinal nephritis was the virus, and not "catching cold." He had made comparison of the cases that he had kept in bed and those who had not been so protected, and he did not believe that the latter class had had more severe nephritis.

DR. PUTNAM had had experience similar to that of the previous speaker, and thought that exposure had had little influence.

DR. KOPLIK, of New York, was glad to hear that the concensus of opinion was in favor of the view of the infection of the kidneys in the cases reported.

DR. FRUITNIGHT thought that cold had some effect in the disease.

DR. NORTHRUP had had a case of acute nephritis similar to those reported, with high temperature and the other severe symptoms.

DR. SMITH thought that a great many cases could be traced to scarlatina of a mild type.

DR. JACOBI had seen a great many cases of primary nephritis. He would call attention to the need of more frequent examinations of the urine of children. The speaker expressed his opinion decidedly as to causation of kidney disease by exposure to cold. Intestinal disorders might be the signs of kidney disease. An examination of the urine would be made in such cases if observed in the adult and it should not be neglected in a child.

THE PRESIDENT expressed the opinion that exposure to cold did produce kidney disease in scarlatina.

DR. SEIBERT believed in fresh air and gave the particulars of cases of scarlatina which he had treated by keeping the patients in rooms opened to the air without bringing on kidney lesions.

DR. W. L. CARR, of New York, inquired why it was that the cases of so-called mild scarlet fever were the ones that applied at the out-door departments of hospitals for nephritis. He believed it to be because the exposure in such patients had some effect in causing kidney complications. Hospital statistics had shown that the lowest percentage of nephritis occurred in patients kept quiet in bed.

DR. CHARLES W. EARLE, of Chicago, sent a paper on "Manifestations of La Grippe in Children," which was read by DR. SEIBERT.

FOURTH DAY, FRIDAY, SEPTEMBER 25TH.

Stomatitis Aphthosa.—DR. F. FORCHHEIMER, of Cincinnati, read a paper entitled "The Etiology of Stomatitis Aphthosa," of which he gave the following summary: 1. Stomatitis aphthosa is a disease produced by some form of deleterious material in the circulation. 2. The material may have its origin in various processes, bacterial or otherwise. 3. This material may, therefore, be of various kinds. 4. This material acts upon a nerve or nerves, upon a nerve-centre or nerve-centres; 5, Producing an herpetic eruption, which is the aphthous process.

DR. H. KOPLIK, of New York, thought that the paper brought the subject to the front of the literature. He narrated particulars of Epstein's views of traumatic aphthæ.

DR. C. P. PUTNAM, of Boston, said that if herpes zoster and herpes labialis could be caused by irritation of the nerves, he wondered why aphthæ could not be due to irritation of the mucous membrane.

THE PRESIDENT did not make use of the word aphtha, as the definition was uncertain and was apt to be misunderstood. He would like a qualifying adjective to the word stomatitis instead of the use of aphtha.

DR. S. S. ADAMS, of Washington, thought that the disease must be regarded as a distinct form. He had noticed a contagious element.

DR. PUTNAM would like to have a committee appointed to consider the nomenclature of the diseases of the mouth in infants and children.

DR. FORCHHEIMER, in closing, replied to inquiries that reflex conditions did not play much part in the causation of herpes. There was atrophic disturbance of the ganglia. He further stated that he had, in his study of the diseases of the mouth, designated the conditions as stomatitis, and used the aphthous qualification as an objective and not as a noun. Diphtheritic stomatitis was very rare, but the presence of stomatitis aphthosa was common in diphtheria.

The President and Dr. F. Forchheimer were appointed a committee to consider the nomenclature of the diseases of the mouth in children.

Perityphlitis in the Young.—DR. J. H. FRUITNIGHT, of New York, presented a paper with the above title. The author formulated the following conclusions for treatment: 1. In cases of a chronic or subacute perityphlitis, without a tumor or with a small tumor, the expectant plan of treatment should be followed. 2. In

cases of chronic or subacute perityphlitis with a growing tumor, with or without evidence of suppuration, extra-peritoneal incision or aspiration should be done. 3. In cases of acute perityphlitis with threatening symptoms, with tumor, and hyperacute cases without appreciable tumor, exploratory incision (extra- or intra-peritoneal) should be made.

Dr. Putnam said that pain was not always localized. Usually he had found general pain. He should use milk in some form for nourishment, because he thought it too valuable to be discarded.

Officers for the Ensuing Year.—*President*, Dr. William Osler, of Baltimore; *Vice-President*, Dr. J. M. Keating, of Philadelphia; *Secretary*, Dr. S. S. Adams, of Washington; *Treasurer*, Dr. C. W. Townsend, of Boston; *Recorder*, Dr. W. P. Watson, of Jersey City.

Dr. W. D. Booker, of Baltimore, was made a member of the Council.

The Society then adjourned, to meet in Boston during May, 1892.

Progress of Medical Science.

Subcutaneous Emphysema following Broncho-pneumonia.—Dr. Damsch, of Göttingen, points out that the occurrence of subcutaneous emphysema in association with disease of internal organs is extremely rare. It is generally produced during some act of respiratory effort, such as straining, prolonged crying, violent vomiting, etc., but is commonly found to be limited within the alveolar or subpleural tissue of the lung itself—the so-called interlobular emphysema. This condition is not always productive of diagnostic signs, unless it spreads to the mediastinal tissues. Children are on all hands admitted to be more liable to rupture of the pulmonary alveoli than adults, but almost all writers agree that simple whooping-cough, unless accompanied by tuberculous or inflammatory disease, is hardly ever productive of subcutaneous emphysema. The latter has been produced by phthisis, especially where tuberculous ulcers are present in trachea or bronchi, and by other forms of disease tending to weaken the bronchial walls. The air, as a rule, passes from the mediastinum to the surface along the course of the great vessels. A case is recorded in which a gradually progressive condition of subcutaneous emphysema affecting the left half of the head, face, and body, showed itself in an infant, aged fifteen months, in the course of broncho-pneumonia of both bases. The emphysema attained a degree described as monstrous, but the child did not appear to suffer from it, becoming quietly somnolent until its death. On examination, it was found that extensive interstitial emphysema was present over the upper lobes of both lungs, forming several rows of tiny subpleural bubbles, some of them as large as a bean. The rest of the lungs, except where consolidated by the broncho pneumonia, were somewhat dry and anæmic. The tissues of the mediastinum were emphysematous, but the pericardium was free, and the air was found to have reached the surface by the usual route.—*Deutsche Medicinishe Wochenschrift.*

Gastrostomy in Cancer of the Œsophagus.—Drs. Terrier and Louis, of the Hôpital Bichat, Paris, advocate this plan of treatment, the frequently fatal results of which, it is held, are due more to the enfeebled condition of the patient than to any risks attending the operation itself. The authors consider how certain inconvenient results which have been observed in cases of recovery may be prevented by improved methods of operating, and sum up their views in the following conclusions: 1. Gastrostomy in cases of cancer of the œsophagus is decidedly a justifiable palliative operation, and ought to be proposed to the patient. 2. Its performance is very simple, and the immediate results are not attended with much gravity. 3. The ulterior evils due to the presence of a gastro-cutaneous fistula may be avoided by opening the stomach as near as possible to the superior curvature, by making only a small orifice, and by dispensing with the subsequent use of occluding agents. 4. Then simple dressings only will be needed, and these should consist of inert powders, or of such (carbonate of magnesia, for instance) as are capable of neutralizing any drops of gastric fluid that might be discharged during any forcible effort made by the patient. 5. The results of gastrostomy with regard to the survival of the patient are influenced by the duration of the disease and the extent to which the stomach is involved. Certainly in France intervention, as a rule, is too late, and the chances of survival are consequently much diminished.—*Revue de Chirurgie.*

Operation for Tumor Pressing on the Cauda Equina.—Dr. Leopold Laquer, of Frankfort, gives an account of a case in which, from the symptoms and history, he was able to diagnose some growth in the sacral canal exerting pressure on the roots of the cauda equina (*The Lancet*). The patient was a young man, aged nineteen, with an excellent family history, and in whom any specific affection could be excluded. He began in September, 1888, to suffer from severe pain in the middle of the sacrum. This spot was also very sensitive to pressure. The pain, although for the most part confined to the spot mentioned, not infrequently spread to the knees on each side, and no impression could be made upon it with all the anti-rheumatic and other drugs which were tried. It was much worse at night than at other times. Counter-irritation and galvanism effected temporary improvement. The pain was always worse when sitting or lying down, and he was able to walk for an hour or two without much trouble. This was when he first came under observation. At this time all the movements of the different joints could be carried out, the knee-jerks were present, and there was no trouble with the sphincters. There was no muscular atrophy, no disturbance of sensibility, and all the muscles reacted well to both currents. After the temporary improvement following counter-irritation and galvanism, his condition became progressively worse; the pains were more severe, there was some wasting of the quadriceps, the knee-jerk could only be obtained with difficulty on one side and was absent on the other, there was pain upon defecation and micturition, and there was difficulty in emptying the bladder. Power of progression also was more difficult, and the patient was much bent when he walked. There was no impairment of sensibility to be discovered. The electrical reactions were unchanged. A diagnosis was made of a new-growth in the sacral canal, compressing the cauda equina. The operation of opening the canal was effected by Dr. Louis Rehn, and a cavernous lymphangioma was found which was extra-dural, but had pressed the dura and the cauda equina from before backward. The patient made an excellent recovery, losing his pain and regaining all his former power.

Etherization in Laryngeal Croup.—Dr. Betz reports the case of a child, aged eighteen months, that presented the typical symptoms of laryngeal croup. The case appeared so hopeless that tracheotomy was, although proposed, rejected. Dr. Betz then proposed "etherization." Three drops of a mixture of ether sulph. 3 parts, acetic ether 1 part, menthol 0.1 part, were ordered to be inhaled every quarter of an hour, just as chloroform is inhaled. It was hoped that the cold from the evaporating mixture would contract the surface blood-vessels of the larynx, and thus reduce the œdema present. The child was seen again in two hours, and the condition had somewhat improved. The etherization to be continued, 3 to 4 drops every half-hour. After six hours the condition was unmistakably better, so much so, in fact, that the etherization could be dispensed with. A piece of intestine filled with ice was placed around the child's neck. After this progress was so rapid that in twenty-four hours the child was out of danger.—*Memorabilien.*

MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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REST AND SURGICAL THERAPEUTICS.

IN an address on surgery, delivered before the British Medical Association, by Dr. John Chiene, a text from John Hilton—"Rest as a Therapeutic Agent in the Treatment of Surgical Ailments"—is taken, and many practical suggestions are drawn from it. Dr. John Hilton lived long, practised and thought much, but he wrote little. His book, "Rest and Pain," was in a measure forced from him by the demands of a lectureship, but it gave him deserved fame, and the principles he inculcated have been fruitful of good. Dr. Chiene has taken Hilton as a guide in many departments of his surgical practice, and we give here some of the fruits of his experience in applying the principle of rest. He says:

"Use leaden splints to steady limbs after amputation and excision. Shape the splint so that it can be unfolded without moving the limb. Anchor the arm by the side with a leaden splint after excision of the mamma. Apply your pressure firmly, but always leave a distal portion of the limb exposed, so that, if it swells, then the pressure is overdone and the bandage must be loosened. We know pressure is properly applied to any part if it fulfils two conditions—painlessness and non-interference with the blood-current through the part.

"Horse-hair stitches are valuable, combining rigidity and elasticity—rigidity acting as a splint steadying the edges, elasticity enabling them when cut to be removed without pain. After cutting a stitch, lay hold of the knot and pull toward the side on which the loop has been cut; in this way all strain on the edges of the wound is avoided.

"A plaster applied over a boil in its early stages acts as a splint, steadies the part, and relieves pain. The boil is frequently aborted by this simple means."

"In intracranial hemorrhage, intra- and extradural, we now feel justified in cutting down and arresting the hemorrhage by ligature, or by the hot douche, and from one case in which I operated on a person, comatose, with Cheyne-Stokes respiration, and a pulse of forty to the minute and on the point of death, I feel justified in recommending that, in apoplexy, an opening into the cranial and dural box is a justifiable surgical procedure, giving rest by relieving tension."

"In the case of nerve-stretching in sciatica, the cases which are benefited are, in my opinion, those which may be called trade sciaticas, due to some special position adopted in the special trade pressing on and irritating the sciatic nerve. You freely stretch the nerve, but do not interfere in any way with the sensory and motor functions, and the pain is relieved by breaking down the fibrous adhesions in the nerve-sheath and among the nerve fibrils. May I say in passing that the operation is sometimes a source of psychical unrest to the operating surgeon if he does not easily find the nerve; this unrest is avoided if, in operating, the patient lying on his face, the surgeon will stand on the opposite side to the limb to be operated upon. If he then makes an incision over the nerve at the lower border of the gluteus maximus large enough to enable him to introduce his forefinger, which, using as a hook, he draws toward the middle line of the patient, he will at once find the nerve lying external to the muscles arising from the tuber ischii.

"There is no organ," Dr. Chiene continues, "in which the value of rest is better illustrated than in the bladder. In disease its systole and diastole can be checked in different ways, and the cystitis caused by the unrest, as evidenced by frequency of micturition, is relieved. This can be done by fixing a gum-elastic catheter in the bladder, taking care that the eye of the instrument is just within the cavity, and attaching to the catheter an india-rubber tube which passes into a vessel at the side of the bed. In 1876 I showed that if the tube passes under water, and if the instrument and tube are full of fluid, there will be, by the siphon action of the arrangement, if the water in the vessel is at a lower level than the bladder, a head of water, which, by its suction, will remove the water from the bladder as it passes from the ureters. The amount of suction will depend on the difference of level, and I have found by experience that a foot of fall is generally sufficient to keep the bladder empty. If the fall is greater, then the mucous membrane is apt to be sucked into the eye of the instrument, and a block takes place, the bladder filling with urine. When this happens pain will at once be felt by the patient; in fact his sensations are the best guide to the height at which the vessel at the side of the bed should be placed. By this simple means we can give the bladder rest."

"In the ligature of internal piles the division of the mucous membrane at the anus with scissors before transfixion and ligature, and tying the ligature tightly so as completely to strangulate the pile, are both means which diminish pain after the operation. The pile mass dies without any inflammation, it dies of dry, painless gangrene. If this had been more frequently attended to we should have heard less of other methods of treating internal piles. While I say this, I desire most emphatically to express my complete accordance with Whitehead's view, that in cases in which the whole circumference of the gut is affected excision is the most thorough and satisfactory method of treatment."

"In epistaxis prevent the air passing through the nasal cavity by tightly grasping the nose, and the epistaxis will frequently cease, the part being kept at rest."

"In the diagnosis of injuries in the region of the hip, the use of Nélaton's line has been given up in my practice, because in order to reach the ischial tuberosity necessary for estimating the line the patient has to be moved. Its place is taken by noting the want of parallelism between two tapes, one passing through the anterior supe-

rior spinous processes, and the other through the tips of the great trochanters of the femur."

While some of the foregoing hints may be regarded rather as surgical "wrinkles" from the practice of Dr. Chiene, they are all, he asserts, suggested by the teachings of Dr. Hilton, and they all more or less give force to the value of the rest element in the treatment of surgical ailments.

THE TREATMENT OF ERYSIPELAS.

ERYSIPELAS is one of those diseases for which so many specifics have been recommended that one is inclined to doubt whether medication is of any value whatever. Its therapeutics, like that of many other infectious disorders, has followed certain fashions. It is not so long ago that the use of tincture of iron in large doses was most extensively employed, and was considered the correct and canonical, if not the only, thing indicated. Yet, in a recent elaborate review of this subject in the *American Journal of the Medical Sciences*, by Dr. Charles W. Allen, the iron treatment seems to be placed much in the background.

Dr. Allen's article is based on a study of 466 cases treated in hospital and private practice.

Some interesting clinical facts are first brought out. It is shown that the disease is much more prevalent in the cold and damp months, from January to June, 243 out of 300 cases occurring at that time.

About two-thirds of the cases were of facial erysipelas.

The mortality of the hospital cases was five per cent. of the total cases, and 3.7 per cent. of the facial cases. The mortality was chiefly among the young.

After reporting a number of illustrative cases, in which various forms of treatment were employed, and after a *résumé* of the various therapeutical recommendations of other authors, the writer states that the plan of treatment which offers the best results is about as follows:

"First, internally, such symptomatic treatment as the nature of the case seems to require. Antipyretics only in case of high or persistent fever (over 103½° to 104° F.). Then antipyrine in dose of at least fifteen to twenty grains, for an adult, guarded by alcohol. Cooling drinks. Calomel or saline aperients in full dose, if there is constipation. If much weakness, alcoholic drinks given freely, especially at critical periods, and iron, or iron and quinine; digitalis if much fever and prostration; bromides for delirium; antipyrine or phenacetin for headache, with cold applications to head, and as concentrated and nutritious a diet as possible.

"Second, locally, I would paint the patch and surrounding margin of healthy skin thickly with ichthyol in collodion, one to two drachms to the ounce. If the scalp is the region affected, a watery solution or ointment of ichthyol can be employed. To arrest the spread I should in every case make an attempt, either with the band of adhesive plaster or by scarification, or both, the latter to follow the former, in case the disease spreads beyond the adhesive strips. In erysipelas of the face which had not yet reached the forehead, or at least its upper part, I would apply a band tightly about the forehead and just above the ears, cutting the hair in a strip around, if necessary to secure firm pressure. The chances of arresting the process here should be at least equal to those of checking the spread upon an extremity, for we have a hard bony base over which to make our compression. If the boundary is passed, then I should at once have the scalp shaved and apply another band higher up. The hair should be cut in any case in which the scalp is invaded or threatened. Then the same application of ichthyol in collodion can be made, as to the face or other part. If there be much tension, swelling, heat, and discomfort (which is not apt to be the case under collodion), any oily substance can be applied over it."

Dr. Allen dwells on the importance of treating purulent foci, if such exist. He regards facial erysipelas as of traumatic origin and essentially identical with the secondary forms. He adds that, as a prophylactic measure in those predisposed to repeated attacks, great care should be taken to discover and cure affections of mucous membranes, carious teeth, ulcerations, or other disease processes or conditions which are mentioned as possible means of maintaining the tendency. Recurrences after apparent cure must be kept in mind, and treatment continued sufficiently long to prevent them.

DRY ADULTERATION.

AT the recent meeting of the New York State Pharmaceutical Association, the committee on adulteration, consisting of Dr. R. G. Eccles, W. G. Tucker, and J. C. Hubbell, made a report of examinations which had been made by its members, of several drugs obtained at retail from pharmacists in various cities of this State. This report, which we find in the *Druggists' Circular* for August, 1891, is too long to be transferred entire to our columns, but it is deserving of more than passing mention, for it reveals a state of things that it is far from pleasant to contemplate. The first drug reported upon is spirit of nitre. This is notoriously unstable in its composition, and we should not expect to find every sample up to the standard. It is, furthermore, a comparatively unimportant drug, and variations in its strength would be likely to excite less apprehension than they would, were the preparation a very active one. Yet it must have caused some astonishment, even to the members of the committee, who are presumably more cognizant of the deceptions practised by pharmacists of the baser sort than are physicians, to find that the strength of the various samples varied from double that of the standard down to practically zero. Between the two extremes there was a difference of 134 times. In other words, a teaspoonful of the strongest contained the strength of more than a pint of the weakest of those containing an appreciable amount of nitrite of ethyl. Some samples did not contain even an appreciable amount, and of the whole sixty-eight samples, forty-seven were so far below pharmacopœial demands that they merited unqualified condemnation.

Of dilute acetic acid seventy-six samples were obtained in various towns between Poughkeepsie and Saratoga. Of these eleven were found to be too strong, thirty-four much too weak, and only nineteen near enough the pharmacopœial standard to be called good, and fourteen fair. The strength should have been 6.12 per cent., but the various samples showed from 0.8 to 29.8 per cent. Of forty-six specimens of Hoffman's anodyne, only five were

good. Other samples of different dilute acids showed variations in strength similar to those found in the case of dilute acetic acid. In twenty eight samples of dilute hydrochloric acid the weakest contained only three per cent., while the strongest had no less than 31.4 per cent. Most of the specimens of dilute sulphuric acid were, however, found to be fair.

Thirty prescriptions were written for stronger ether, and for one was sent a mixture of chloroform and alcohol! The druggist that would make such a substitution as that ought to be published to the world, if not criminally prosecuted. Of the remaining twenty-nine samples, no less than twelve were inferior. Of fifteen samples of potassium iodide only three were good, and of thirteen samples of magnesia only one was of good quality.

The committee also examined a number of pills of various sorts obtained from the manufacturers, testing them as to their contents and solubility. They varied considerably in both respects, yet not sufficiently, perhaps, to interfere seriously with their therapeutic action. The widest differences were found in the compound cathartic pills of various makes, three out of the five samples tested being made of the cheaper grades of aloes and jalap, the extract of jalap being generally substituted for the abstract. All were labeled U. S. P., although their makers must have known of their failure to conform to that standard.

Is it any wonder that there is so much therapeutic scepticism among physicians of the present day? It is a suggestive fact that the firmest believers in the efficacy of drugs have always been found among the practical and hard-headed country practitioners, who put up their own prescriptions, and usually prepare their own tinctures from the crude drug. They know what they are doing, and have confidence in their own weapons.

MEDICAL FELLOWSHIPS.

THE announcement of the College of Physicians and Surgeons for the coming year contains the information that the trustees of Columbia have established three fellowships, the provision for which is made annually by the Alumni Association of the college. The fellowships are to be open to graduates who have shown special aptitude for scientific research in anatomy, pathology, and physiology. They are to be held for two years and have an annual value of five hundred dollars each.

No more welcome announcement has been made for many a day than is contained in the foregoing paragraph. The time has come even here, in the United States, when the teaching of medicine ought to be entrusted to those who have made some special preparation for teaching over and above the mere college curriculum and a certain number of years of practice. All our larger academic institutions are surrounding themselves with a body of graduate students who, free from the petty tyranny of examinations, are pursuing knowledge for its own sake and for the power and influence it may give, and are not merely after a diploma. These men must, and it is proper that they should, present from time to time an original thesis, as a guaranty of their fidelity and as evidence of results accomplished. From their ranks the teaching force of our institutions is to be recruited. Their presence conduces to the establishment of a studious atmosphere about the places of their work.

It is still somewhat of a novelty, however, to have such fellowships in our medical colleges, but it is most emphatically a step in the right direction. Here, as elsewhere, teaching is becoming more and more specialized, and requiring special preparation for its proper performance. No man whose time is taken up by the daily duties of a general practice, and who has no hours regularly set apart to the work of preparation, can ever teach satisfactorily any scientific branch of medicine. He may be a fair clinical lecturer, but even then he must keep abreast of current knowledge. Fellowships will lead to the development of the right sort of men for our laboratories and dissecting-rooms.

We have already called attention to the fact that the days of the old-fashioned didactic lecture are numbered. One of our institutions has already introduced a corps of teachers, that is, conductors of recitations, and further expansion along this line will certainly come. Demonstrations in various departments must always survive as well as certain didactic forms of imparting knowledge, but the old-time medical student whose years in college represented only two or three hundred lectures, and a few scores of well-filled note-books, will soon be a thing of the past.

News of the Week.

The King of Siam's Physician.—Dr. W. R. Lee, who has been made the royal doctor to the King of Siam, is but twenty-eight years of age, and at the age of twenty-four he was driving an express wagon in Springfield, O., for a living. Dr. Lee was graduated from the medical school of the University of New York, and was originally sent out to Petcheburee, in Siam, by the Presbyterian Board of Foreign Missions.

What Elixir the Best?—A correspondent sends the subjoined clipping with the facetious suggestion that it might make a good introduction to a flamboyant advertisement: "Napoleon's disaster at the battle of Leipzig is popularly set down to his having eaten a bun in a hurry, and so brought on dyspepsia; but it would be a very curious page of history if we could learn how many wars, how much bloodshed, and how much cruelty have had their origin in imperfect action of the bowels. Washington Irving, in his "Lives of the Caliphs," tells of a certain emir, named Al Hejagi, who suffered for many years from dyspepsia and abdominal pains, and this wretched man distinguished himself, perhaps above all other rulers who ever lived, in the enormous number of people whom he sentenced to imprisonment and death. He is said to have caused the death of no less than 120,000 persons, besides those who fell in battle, and to have left 50,000 in prison when he died himself. How much of all this misery might have been averted by the judicious use of mild aperients, it is as impossible for anyone now to tell, as it is to estimate the debt of gratitude which Europe owes to the physician of Louis XIV. for the care he took of the digestive organs of that august monarch."

Dr. J. W. S. Gouley will begin a course of lectures on "Diseases of the Urinary Apparatus," at the Mott Memorial Hall, 64 Madison Avenue, on October 6th, and continue every Tuesday at 8.30 P.M., thereafter. These lectures, supplemented by clinics, in the amphitheatre of Bellevue Hospital, every Saturday at 3 P.M., will be free to the profession and students of medicine. Opening clinic October 3d.

Dr. John M. Keating, of Philadelphia, has resigned his position as director of the Penn Mutual Life Association, and has removed to Colorado Springs.

In the Matter of the Admission of Private or Pay Patients to the New York State Hospitals for the Insane.—A special session of the State Commission in Lunacy was held at the Capitol, in the city of Albany, on the ninth day of September, 1891. Present: Carlos F. MacDonald, M.D., *President;* Goodwin Brown, Henry A. Reeves, *Commissioners.* The laws of the State having declared that the State hospitals were erected and are to be so maintained and governed that the public insane patients, for which class the hospitals were established, shall have the preference—the statute expressly providing as follows: "Whenever there are vacancies in the asylum the managers may authorize the superintendent to admit, under special agreements, such recent cases as may seek admission under peculiarly afflictive circumstances, or which, in his opinion, promise speedy recovery;"—and the Commission being required, by chapter 126, of the laws of 1890, "to forthwith cause the removal . . . from the counties of . . . as many of the pauper and indigent insane as can be accommodated;" and the Commission having, in conference, requested the opinion of the managers and superintendents of said hospitals, touching the admission of private or pay patients, which, after due deliberation, was given in a resolution adopted by the affirmative vote of six of the eight hospitals—one being unrepresented and one not voting—as follows:

"*Resolved*, That it is the sense of this meeting that the State hospitals should be permitted to receive private patients from any part of the State without restriction, the rate not to exceed ten dollars per week;" and in order that the rights of the insane poor, and of such as can pay small sums only, may be fully protected by reserving to their use and benefit as much room space as may properly be required; and in order to guard against the restriction of such space by its undue allowance to private or pay patients who may desire it as an equivalent for a large weekly or monthly compensation; it is hereby

Ordered: 1. That on and after October 1, 1891, no private or pay patient at any State hospital be permitted to occupy more than one room for his or her personal use or behoof, or to command the exclusive services of an attendant; and, thereafter, there shall be no distinction permitted between public and private or pay patients as to the care and accommodation furnished them. 2. That whenever the managers or trustees shall determine that vacancies exist, private or pay patients may be admitted by them without further restriction, at a rate of compensation not to exceed ten dollars per week, preference to be given in all cases to patients of small or moderate means. 3. That this order, unless specially so directed, shall not be held to require the removal of the private or pay patients in custody October 1, 1891. 4. That this order shall take effect October 1, 1891, and on said date the order relating to private or pay patients entered September 2, 1890, shall cease and be of no effect. By the Commission. T. E. McGarr, *Secretary.*

Union Meeting of the District Medical Societies of Northern Ohio.—It has been decided by the Joint Committee appointed by the following societies, to hold a union meeting of the North Western, the North Eastern, and the North Central Ohio Medical Societies, at Mansfield, O., on Thursday, Friday, and Saturday, November 5th, 6th, and 7th.

The Third Annual Meeting of the Tri-State Medical Association of Georgia, Alabama, and Tennessee, will be held in Chattanooga, Tenn., Tuesday, Wednesday, and Thursday, October 27th, 28th, and 29th, at Turner Hall.

The Seventeenth Annual Session of the Mississippi Valley Medical Association, will be held in St. Louis, October 14th, 15th, and 16th.

A Benefactor to the Medical Profession. The recent death of Colonel Frederick A. Conkling, of this city, calls to mind some past history in reference to legalized dissection in this city. The medical profession here and elsewhere are more indebted to the Hon. Mr. Conkling for the passage of the dissection law than to any other legislator. It was by his efforts, while a member of the Assembly, in 1852, that the law of 1854, legalizing the study of human anatomy, became an accomplished fact. It was a hard fight against popular prejudice by Colonel Conkling, but his scholarly and consistent advocacy of the bill won the battle.

The Practitioners' Club of Chicago is a new medical society, which held its first banquet at the Palmer House August 31, 1891; fifty of the representative medical gentlemen of the city were in attendance.

The features of its organization are, viz.: 1. To afford the opportunity for occasional social communion in the profession. 2. To meet in a happy and informal manner those laboring in the same pathway of duty as ourselves, whether they are almost at our elbows, from the wide limits of this great municipality, or, perchance, strangers within our gates. 3. To discuss lightly—extemporaneously, so far as possible—the more timely and pertinent questions of our science. 4. To furnish a visiting brother a greater hospitality—in this direction—than would be within our power, were it not for the existence of, and our personal interest in, this medium. Dr. George Henry Cleveland is Secretary.

Excision of the Apex of a Tuberculous Lung.—*La Gazetta Médica de Granada* reports a case of the successful excision of the apex of a tuberculous lung by Dr. Tuffieri, who, prior to the operation, had satisfied himself of its safety by a series of experimental operations on the lower animals. Cutting through skin and some fibres of the pectoralis major, Dr. Tuffieri laid bare the intercostal muscles of the second intercostal space, and cutting through these he exposed the parietal layer of the pleura, which he detached from the thoracic parietes. Opening the pleura, he found the lung apex studded with tubercle and slightly shrunken. Round the apex he passed a ligature, which he attached to the second rib,

and then excised five centimetres of the tuberculous mass. The patient was, on his recovery, exhibited before the Surgical Society.

The Society for the Abolition of the Title of Doctor receives help and encouragement in the following annotation from the *Medical Press and Circular*: "The titular appellation which medical practitioners rejoice in is a relic of antiquity akin to that of the legal wig, and it is curious in that it has survived the levelling tendencies of the present generation. A correspondent raises the question as to whether the practice is an unmixed advantage. It serves to distinguish the doctor from his fellow-men, and although from an advertisement point of view this may not be altogether a drawback, it certainly entails inconveniences of its own. It never occurs to an outsider to start a conversation with a doctor on any but a medical topic, and it is quite open to discussion, a contemporary suggests, whether, if medical men did not differentiate themselves so much, and were content to be like other educated members of the community in title, manners, and personal appearance, it would not be better for themselves both in public and private life."

Too Bad for the Doctor.—The cities of the Northwest offer very poor openings for physicians. The death-rate is probably the lowest of any great cities in the world, and there is a distressing absence of zymotic affections; while even the great resource, tuberculosis, is comparatively rare.

A Novel Cure for Nervous Diseases is being practised in Worishofen, Bavaria. The treatment is the outcome of the study of an old priest, and consists chiefly in spraying water over the body in various places, dressing at once without drying, and brisk walking immediately afterward. The diet is carefully attended to, and thousands have been cured of nervous troubles which had defied all previous physicians.

The Electric Fan has been suggested as a useful antipyretic in fevers.

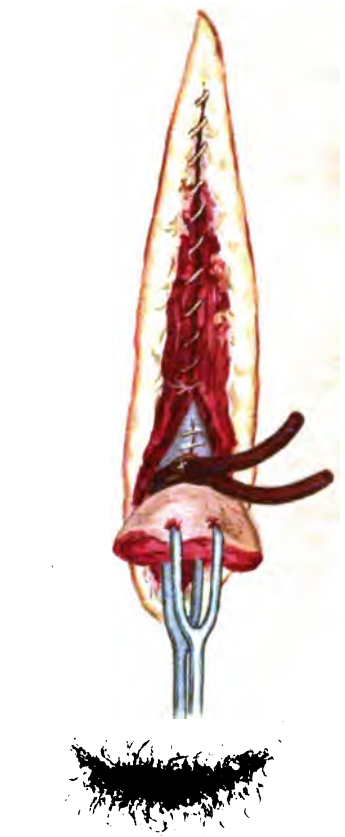
The First Colored Female Doctor.—Novelties in the way of doctors *quoad* race, sex, sect, condition, etc., have become somewhat rare of late. We have recorded the evolution of the first Chinese doctor, the first female homœopathic doctor, the first lady medical Brahmin, etc. Despatches now furnish us with the report that the first colored lady medical doctor has just passed the Alabama State Board and is qualified to practise medicine. The reports are modest in that the doctress is said to have passed with simply a high average. We trust that Doctress Dillon will be successful. The colored physicians whom we have met have been modest, earnest, and industrious, and they have shown better than many others the capacity for progress of their race.

The Mortality in August Throughout the State.—The monthly bulletin of the State Board of Health for August contains these remarks: "Mortality reports from 138 cities, villages, and large towns, having an aggregate population of 4,311,000, show the total number of deaths from all causes in August to have been 8,913, making a death-rate per thousand of 24.34 per annum; in July the death-rate for the same places was 25, and in June, 22.78; 50.4 per cent. of the deaths in these localities were under five years of age, and 31 per cent. of the deaths were from zymotic diseases, 23.3 per cent. being from diarrhœal diseases, nearly one-fourth of the total urban mortality. Of 1,800 deaths occurring in rural districts, 28 per cent. were of children under five years of age, and 23 were from zymotic diseases, 18.5 being from diarrhœa. For the State these proportions vary little from the average for six years, the zymotic and diarrhœal mortality being a little lower than the average. Typhoid fever shows the usual increase, which always begins in August and continues through the fall months; the increase over July is chiefly in the maritime district, which ordinarily has a lower death-rate from this cause than other sanitary districts. There were fewer deaths from scarlet fever, measles, and diphtheria than in July, and a moderate increase from whooping-cough. There were more deaths than usual from accidents, chiefly from drowning and railway injuries."

Dr. Henry Bennett died recently at Mentone, aged seventy-five years. In his earlier years he was a pioneer in gynecology; for a long time he was one of the editors of *The Lancet*. Later, being obliged to go to the Mediterranean to live, on account of lung disease, he turned his attention to the subject of phthisis and its climatic treatment. His services in this line have been of immense value, and have saved or prolonged the lives of many invalids.

A Pæan in Honor of Æsculapius.—"De Novo Pæane in Honorem Æsculapii facto" is the title of a paper by Herr Ziebarth, of Göttingen, contributed to the "Commentationes" of the Seminarium Philologicum of Munich, just out. The ode, written in the dactylic metre employed for such compositions by the Greek tragedians, is addressed to Æsculapius by the town of Ptolemais, the modern Menshieh, in Egypt—addressed, moreover, on behalf of the Emperor Trajan, for the recovery of whose health the townsfolk vow to the god and his daughter, Hygeia, a restoration of their temple and glebe (τέμενος). Well engraved on stone and admirably reproduced by photography, the ode may be referred to the seventh year of Trajan's reign (A.D. 104), the "titulus" inscribed over it setting forth that Pompeius Planta was then Prefect of Egypt, as we know from one of Pliny's letters to the Emperor to have been the case. It is possible, however, as Herr Ziebarth suggests, that though published in that year the ode may have been written long before, as it follows closely on the lines of another "pæan," addressed to Apollo, reproducing the same invocation, the same prayer, and the same metrical form. As a specimen of official poetry it has much interest for the student of the history of medicine, as will be found by anyone who can give an hour to the admirable Latinity of Herr Ziebarth's paper.—*The Lancet.*

Professor Adamkiewicz, of Cracow, who has been making researches on the etiology and treatment of cancer, which he thinks likely to lead to highly important practical results, recently applied to the Austrian Minister of Education for permission to pursue his investigations in a larger clinical field than he can command at Cracow. The Minister has placed the material in the First Surgical Clinic of the Vienna General Hospital at his disposal for the purpose during the next winter semester. Professor Adamkiewicz has already begun work in the Austrian capital.



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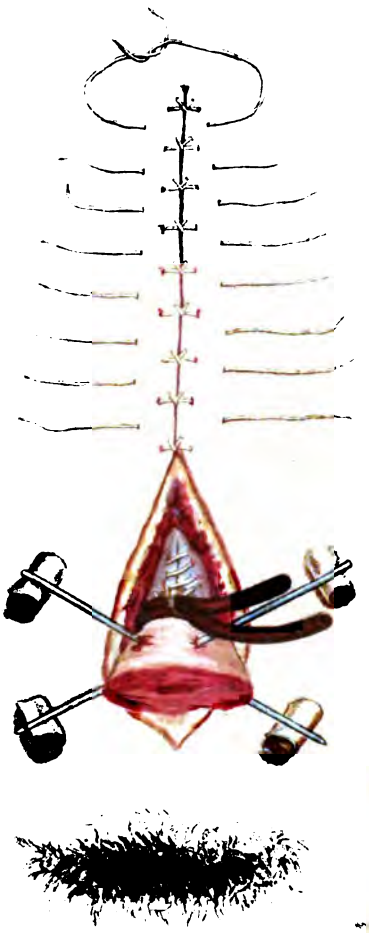

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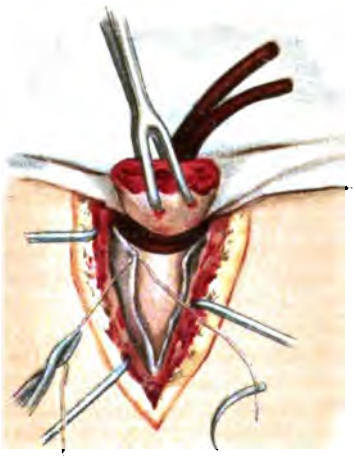

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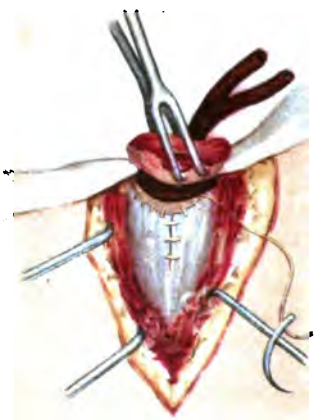

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EXTRA PERITONEAL TREATMENT OF THE PEDICLE
AFTER SUPRA-VAGINAL HYSTERECTOMY.

LINDNER, EDDY & CLAUSS, LITH N Y

[TAKEN FROM A TREATISE ON MEDICAL AND SURGICAL GYNÆCOLOGY BY S. POZZI, M.D., NOW IN PRESS BY WM. WOOD & CO.]

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Original Articles.

HEGAR'S EXTRA-PERITONEAL TREATMENT OF THE PEDICLE AFTER SUPRA-VAGINAL HYSTERECTOMY FOR FIBROIDS.

WITH DESCRIPTION OF CHROMO-LITHOGRAPH (FRONTISPIECE).

(FROM "POZZI'S GYNECOLOGY.")

As the majority of authors do not classify their cases according to systems which permit comparison, it is difficult to decide as to the absolute mortality of the operation. However, in default of anything better, we must have recourse to statistics, and these show a decided percentage in favor of cases where the pedicle or stump is treated by an extra-peritoneal method similar to that shown in the accompanying plate. Pozzi, in his new and valuable treatise on gynecology,[1] after describing in detail the intra-peritoneal and mixed methods of disposing of the pedicle, and the application of the permanent elastic ligature, speaks of this method as follows:

"One of the most important points in Hegar's method is the complete isolation of the pedicle outside of the abdominal cavity. By suturing the peritoneum below the elastic ligature, and by non suture of the immediately adjacent abdominal planes, he forms a gutter which surrounds the pedicle so that it remains isolated like a pistil in the centre of a flower. This gutter prevents the pedicle, which is meant to slough off, from being imprisoned within the soft parts and infecting them, and about it we can make topical applications destined to mummify it and keep it aseptic. This peculiarity of the technique, especially in very stout patients, is of the greatest value. To . . . attach the peritoneum to the surface of the pedicle immediately below the ligature . . . I prefer catgut (Plate VI., Figs. 1 and 2).

"Great care must be taken that only the serous surface is included in this suture, using a very fine curved needle that the punctures may not bleed. It is well, with the same suture, to attach the stump of the broad ligament on each side to the stump of the uterus as closely as possible. When this peritoneal collar has been applied to the pedicle we may continue the suture of the peritoneum through the whole length of the abdominal opening with the same needle and catgut, adding, if necessary, a few supplementary points. The suture of the other abdominal planes is begun about 4 ctm. above the pedicle (Plate VI., Figs. 3 and 4).

"To prevent the pedicle from descending too far into the pelvis under the influence of movement, etc., two strong pins, crossing like the letter X, are passed through just above the ligature, and their pointed ends cut off. These pins have the additional advantage of preventing the elastic ligature from slipping. Below their ends small pads of iodoform gauze are placed to prevent their wounding the integument (Plate VI., Fig. 5). Then, with the scissors, the pedicle is trimmed to the shape in which it is to be left, and after surrounding it with wet antiseptic compresses its surface is charred with the thermocautery."

The dressing and after-treatment is then described, and the relative indications which should determine the choice of an extra- or intra-peritoneal method most clearly discussed.

FIG. 1.—The suture of the peritoneum to the lower part of the pedicle is begun; the pedicle being strongly drawn upward so that its distance from the pubes is much increased.

FIG. 2.—Suture of peritoneum about lower portion of the pedicle completed.

FIGS. 3 and 4.—Suture of abdominal walls above the pedicle. (3) Continuous catgut suture of the peritoneum, and (4) of the musculo-aponeurotic planes.

FIG. 5.—Peritoneum sutured in a ring about the lower part of the pedicle, the stump being strongly depressed to show this suture. Deep sutures for integument in place, and superficial ones tied above the pedicle.

For the purpose of demonstrating the arrangement, and to allow movement of the stump, the wound is shown with the cutaneous sutures below the pedicle not yet in place.

[1] A Treatise on Medical and Surgical Gynecology, preparing for early publication by William Wood & Co.

THREE DIAGNOSTIC SYMPTOMS OF MELANCHOLIA.

SECOND COMMUNICATION.

BY LANDON CARTER GRAY, M.D.,

PROFESSOR OF NERVOUS AND MENTAL DISEASES IN THE NEW YORK POLYCLINIC.

I READ, in June, 1889, before the American Neurological Association, a paper with the same title as this,[1] detailing sixteen cases of melancholia in which either the three symptoms—melancholia, insomnia, and post-cervical ache—or some two of them were present. Since then I have had the opportunity of observing twenty cases of the same disease, and they have all been confirmatory of the position which I then took, namely, that these symptoms were of great diagnostic importance in the recognition of simple melancholia.

These latter cases are as follows:

CASE I.—Male, aged fifty-five. First seen in November, 1890, when the melancholia had been present for about two and a half months. There was marked insomnia, distinct mental confusion, marked dulling of the cerebral reflex, but no post-cervical ache whatsoever, acute auditory hallucinations, and the melancholia was almost of the agitated form. This patient progressed very favorably in the course of six weeks, when he left for home still under treatment.

CASE II.—Female, aged forty-three. Some ten years ago had an attack of melancholia lasting about a year, from which she recovered excepting some slight eccentricity and an inability to do the usual amount of mental work. This patient was first seen by me in August, 1890. The present attack had commenced in December and had been caused by great grief at the death of an intimate friend. There had been marked hallucinations and delusions for several months after the onset, and even when I first saw her there was a marked mental dulness with slight hallucinations. The insomnia had been obstinate and persistent from the start, and suicidal attempts had been frequent. In the previous attack there had been well-marked post-cervical aching, but there has been none in this. This patient recovered perfectly in the course of eight weeks, with the exception of her insomnia, which is apt to recur at present from time to time.

CASE III.—Female, aged forty two. Has had very

[1] The Journal of Nervous and Mental Diseases, January, 1890.

vivid optical hallucinations, non-delusive for the last year. Melancholia almost of the agitated type. Has had obstinate insomnia and post-cervical ache for this period of time. This patient has improved greatly under treatment.

CASE IV.—Female, aged thirty. Pronounced melancholia, with slight delusions and delusive optical hallucinations, obstinate insomnia, no post-cervical ache.

CASE V.—Female, aged forty. Great melancholia, obstinate insomnia, and what she terms headaches run ning from the vertex down the back of the head to the nape of the neck, with auditory illusions and visual hallucinations. She had a previous attack some four years ago, since which the post-cervical ache has persisted, and has had occasional attacks of slight melancholia. Has no delusions whatsoever.

CASE VI.—Male, aged twenty-nine. Has persistent insomnia, post-cervical and occipital aches conjoined with a feeling of constriction across the forehead. Has had constant suicidal impulses, which, however, he has been able to restrain perfectly, and a deep melancholy.

CASE VII.—Male, aged twenty-five. For the past year has had constant headaches, starting in the left occipito-parietal region and extending over the whole head. Great melancholy and constant suicidal impulse. The insomnia has been very persistent and obstinate. Has no hallucinations or delusions.

CASE VIII.—Female, aged twenty two. For two months has had steady pain in the frontal and also in the occipital region, and obstinate insomnia, and has been very greatly depressed. Has made several attempts at suicide.

CASE IX.—Male, aged forty-six. Seen November 12, 1890. The duration of the disease has been eighteen months. Began with profound melancholy, to which was added, in the course of a few weeks, persistent insomnia and aching in the back part of the head and neck, although this location of the pain was only temporary at the onset as it is now at the vertex. Patient is very melancholy, shedding tears frequently without cause. Has occasional suicidal thoughts, but he states that these are very easily dispelled. There was considerable mental confusion until about three months ago, but he yet talks slowly and with a barely perceptible effort, although he is naturally quick in conversation. The memory has been fairly good for these eighteen months, although it has failed him temporarily in several important business matters. He looks very sad and depressed.

CASE X.—Male, aged thirty-two. Was first seen September 16, 1890. Has had obstinate insomnia for four or five years, obtaining only four to five hours' sleep. Has had slight suicidal thoughts occasionally, these being very persistent upon two occasions. He admits that he has often felt that life was useless and has longed to get out of it. Has never had any hallucinations or delusions. Has had occasional attacks of slight mental dulness, and thinks that he has on several occasions had a slight dulling of cerebral reflex so that he would have to make a mental effort to follow conversation. He has a peculiar sensation in the occiput, running down into the neck, never ascending to the vertex, and which he describes as an odd feeling of numbness and tingling. He is a very bright, quick man, of fine physique, and has been extremely successful in large and complicated business operations. On October 31st this patient began treatment, and in this interval of time the insomnia had increased so much that for several nights in succession he obtained no sleep at all.

CASE XI.—Male, aged fifty-six. First seen in October, 1890. This patient has had a melancholy tendency throughout life, and during the last year or more—the exact time cannot be stated—he has suffered from causeless depression; thinks he is spending too much money; sheds tears without cause; is very morose, moody; sleeps and eats well; is very much depressed about his real estate investments, although his wife assures me that there is not the slightest reason for any anxiety. He inherits a melancholy temperament; his color is good; has a slight tremor of the hands; has no hallucinations, so far as can be ascertained. When seen alone admits that he has not had a day for over a year without suicidal thoughts and longings, and has even gone so far as to purchase a revolver. Realizes, when reasoned with, that there is no reason for worry about property or himself. At one time in the course of the disease there was considerable mental dulness and a dreamy condition, but he thinks that his memory is perfect for all that occurred throughout his sickness. His melancholy is worse in the morning. Can derive no pleasure from any source. He has no post-cervical ache whatsoever at present. Had the grip last winter, and seems to have had an attack of cerebro-spinal meningitis some seven years ago.

CASE XII.—Male, aged forty-two. First seen in October, 1890. In the spring of 1877 he lost seventy pounds in weight in a short time and was much depressed in health, with great thirst, vague nervous spells, anorexia, headache, drowsiness, and obstinate insomnia, all of which symptoms are said to have been due to diabetes, from which he now suffers. He now has considerable pain in the back of the neck, severe melancholy, and at one time vague auditory hallucinations when in a certain room; has marked delusion about the state of his business affairs, sheds tears very easily, has to make considerable effort in thinking, talks slowly. Has evidently been subject to migraine throughout his life.

CASE XIII. — Male, aged forty-three. First seen September, 1890. For the last two days there has been an aching in the occiput down the shoulders, never ascending to the vertex. On the night before coming to me he had only two hours' sleep, and has suffered from a lesser degree of insomnia for several weeks before. Has had great depression in the last two days and has cried like a child, although he is naturally of a self-contained, virile temperament. The tears were caused by something said to him which hurt his feelings, although it was some trifling matter of business which would ordinarily not have affected him at all, and this nervous shock seems to have been the cause. The tongue is heavily coated with a yellow fur. He is of a constipated tendency, and has been much constipated in the last few weeks. No mental confusion has been noticed by himself or wife, nor any delusions or hallucinations. Has suffered from dyspepsia for about one year, and considerable flatulence three or four hours after meals. This patient was found to be suffering from inability to digest starchy foods and some coincident slight stomachic maldigestion. He recovered in a short time upon a nitrogenous diet, and the administration of pepsine, pancreatine, and naphthaline. His tendency to melancholy and slight attacks of insomnia have lingered, however, up to the present time, although they are readily corrected by attention to the foregoing dietetic and medicinal considerations.

CASE XIV.—Male, aged fifty-five. First seen in March, 1890. Has been of melancholy temperament throughout life and subject to fits of depression. Has never suffered more than slightly from insomnia. Has lately had a feeling in the occiput running down between the shoulders, and consisting of what he terms vaguely a "wild feeling," so that he feels startled, as if, as he says, he were hysterical. This patient recovered in a few weeks and remained well throughout the summer. In the early autumn, however, he had another attack, attended with slight jaundice, the latter evidently due to a mild degree of duodenitis. When this was corrected his melancholy and post-cervical ache remained, and has continued more or less to the present time, its continuance being due, I think, to the fact that he is a very difficult patient to treat, as he ceases to come to me upon any slight improvement in his system. In these attacks he has a slight delusion about his affairs, so that he thinks himself poverty-stricken and about to lose everything, when in reality he is a man of ample means.

CASE XV.—Female, aged thirty-two. First seen in June, 1890. Ten years ago, after a fright, this patient had an attack of melancholia lasting some two months, and has since then had three or four attacks, each lasting about the same time. The present attack has lasted since January, and began after reading a newspaper article about some man suddenly becoming insane. The melancholy in these attacks is generally causeless, lasting only a few minutes, and in them she has often thought of killing herself and her children, but has been able to readily dismiss these ideas. Has slight insomnia, consisting of restlessness for an hour or two before going to sleep. Never had any aches or pains about the head before this attack, but now has a pain in the occiput, occasionally creeping up toward the vertex, but never in the neck, and consisting of a sensation which she describes as "creeping" in the scalp rather than pain. She tells me that she gets very much confused mentally when she has the melancholy, but this I have not been able to see for myself. Thinks that her memory has never been impaired. There is a slight neurotic heredity, as her mother and sister have migraine, although she has never suffered from it herself. In other respects than these she is a thoroughly healthy woman, her digestion being especially good. She has a slight tendency to constipation. This patient recovered in a few weeks and went off to the country for the summer perfectly well, but has since had one or two slight attacks which have been easily checked by slight medication.

CASE XVI.—Male, aged thirty-five. First seen in December, 1889. About eleven months ago this patient had some pulmonary trouble, accompanied by night-sweats, from which he fully recovered in five months. After this his present symptoms began. He has a fulness in the back of the head and around the ears, occasionally descending into the shoulders. For a few weeks past has had occasional insomnia. At first he had slight suicidal tendencies, in the last three or four years has had both suicidal and homicidal tendencies, which have been almost uncontrollable, so that one day he found it almost impossible to restrain himself from killing his little boy with a hammer. He says that death would be a boon to him. The melancholy has been much worse in the last three years. He is unable to obtain pleasure from anything. He cannot recall any period of mental confusion. Has been doing an extremely prosperous business during the last ten years, so that he is now a rich man, although he was not worth a dollar ten years ago. He has visual hallucinations; for instance, when sitting in my waiting-room felt that he could see a pair of feet raised in front of him, and in coming to me thought he saw some one being run over and shrank from the sight. These hallucinations are non-delusional. Seems to have no illusions or delusions. A careful cardiac and pulmonary examination revealed no organic trouble in these organs. In the last two weeks had only had two or three hours sleep at night. Has a marked precordial fear at times, although he is not much agitated by it. Has had occasional severe stomachic symptoms and indigestion, and has a chronic indigestion with eructations of odorless gas. His tongue is slightly coated. His appetite is good. Is constipated. Has had severe migraine all his life, inherited from his mother, but this has been made much better by the melancholia. He states that anything given for the "stomach" and "liver" has helped his head. Has no hereditary history although he comes of a family in which I have treated several members for epilepsy, migraine, and chorea.

CASE XVII.—Male, aged sixty-seven. First seen in November, 1889. About two months ago this patient began to worry about the affairs of a college of which he was president, and became greatly depressed. Has had persistent and obstinate insomnia for the last month, so that he has not been sleeping more than two to three hours upon any night. Although this patient would not at the time of his sickness admit that he had any suicidal tendencies, I yet suspected them, because he cautioned his wife not to leave the nux vomica bottle in his room, and also because he had warned her that there would soon be a great catastrophe, and since his recovery, only a few days ago, prior to a long course of travel that he is now taking, he told me that his suicidal impulses were a great source of torment to him, so much so that, as he expressed it, he lived in hell, and that only the fact that he was a minister prevented him upon numberless occasions from taking his own life. There seems to have been no direct neurotic heredity, though insanity has run in some collateral branches of the family. The melancholy of this patient was so extreme as almost to be that of melancholia agitata. He would cry, wring his hands, moan, refuse to be comforted or to believe that there was anything in store for him but eternal torment, and, at times, became so agitated as to need the care of an attendant. Looks weary and emaciated. Pulse good. Tongue is heavily coated, has flatulence and anorexia, and has diarrhœic tendency. Has no post-cervical ache whatsoever. Is somewhat confused mentally, and his cerebral reflexes are dull. This patient made an excellent recovery in the course of four months, has since resumed his occupation, and has, as I have said, just departed upon a long tour of travel.

CASE XVIII.—Male, aged thirty-four. First seen in October, 1889. The onset is said to have been after a cold bath this summer at Narragansett Pier. Has been very intemperate until about two and a half years ago. After the cold bath is said to have had an acute nephritis, as denoted by casts, blood, and albumin. An examination of the urine shows that it is now normal. Has since the nephritis had persistent insomnia, so that he claims he cannot now sleep without thirty grains sulfonal. Is very nervous and apprehensive. Is subject to slight cardiac palpitations. His appetite is good, but he is somewhat constipated. Has vague neuralgic pains throughout body, and also in the head when worried. Has no delusions or hallucinations. Has never had suicidal tendency. Has occasional drawing pain in the back of the neck and down into the shoulders. Three years ago had delirium tremens. This patient improved somewhat under a treatment conducted through four weeks, when he returned to his home in a distant city, and in the course of some six months made, I am told, a fair recovery and remained well for some nine months, when, under business strain and some slight intemperance, he had an attack of acute mania and was committed to an asylum.

CASE XIX.—Female, aged twenty-eight. First seen in October, 1889. Sister and brother have had slight melancholia. The duration of this attack has been about one year. Has had constant pain in the occiput, at times quite severe. Has had great insomnia throughout the whole year. Has also had persistent melancholy, occasionally so marked that the patient would shut herself up in her room and weep and cry without cause, recognizing that there was no cause. There is absolutely no other disease than that indicated by these symptoms. There is a slight delusion that people regard her suspiciously, although she can readily be reasoned out of it. There are no hallucinations or illusions. This case was diagnosed as hysteria. She recovered in three months under careful treatment.

CASE XX.—Female, aged fifty-two. Seen in November, 1890. For over a year she has been very melancholy and depressed. Has no post-cervical ache, and has had none. Has marked and constant insomnia. Her memory has been perfect throughout the sickness, except a short period at the outset. Has hallucinations of hearing which are semi-delusive.

These are the original cases which, as I have said, I reported in June, 1889:

CASE XXI.—Female, aged thirty-five. Had a severe attack of melancholia five years ago, caused by the sudden death, by a fall from his horse a few days before the intended marriage, of the gentleman to whom she was betrothed. The melancholia lasted for upward of a

year, and it was not until about a year ago that she came under my care. She then complained greatly of obstinate insomnia and severe aching in the back of the head and neck. For three years this patient has been under my treatment, so that I have been able to observe in her the existence of a fixed melancholy, of such a nature that it seems utterly impossible for her to receive a pleasant impression of any kind. At times she has attacks of dull aching pain in the back part of the head, neck, and shoulders, and at the same time she becomes more or less sleepless. These attacks have usually been mild in character, and have yielded after about a week of treatment, but occasionally they have become very severe, and the post-cervical ache has become actual pain of considerable intensity, the insomnia has become pronounced, and the melancholic condition has deepened and has been attended with mental confusion and hallucinations.

CASE XXII.—M——, widow, had attack of melancholia agitata about eight years ago, during which she made repeated and determined attempts at suicide. When I saw her a year or two after the acute symptoms had disappeared she had a fixed melancholy which no reasoning could influence; slept only three or four hours each night, and was troubled with a constant aching, uneasy feeling in the back of the neck and head, and in the shoulders. During the years that have since elapsed in which this patient has either been under my care, or so situated that I have known accurately of her condition, she has had almost uninterruptedly the fixed melancholy, the poor sleep, and the post-cervical aching. At times the insomnia has become very obstinate, and the post-cervical ache has mounted into severe neuralgic distress, but she has had no increase of her mental symptoms.

CASE XXIII.—Female, married, sent to me September, 1888. She gave a history of a meningitis following insolation many years ago. During the last six months she has been suffering from melancholia, obstinate insomnia, slight hallucinations, and constant distressing aching in the back of the head and neck, and in the shoulders. Under treatment these symptoms disappeared, with the exception of some slight aching in the locality described, and the patient was doing very well when she was again sunstruck in the early part of the summer, since when I have lost sight of her.

CASE XXIV.—Female, unmarried, had had melancholia for some two months, and had made two determined attempts at suicide. She had a causeless melancholy which could not be reasoned away, but had never had any hallucinations or mental confusion, had obstinate insomnia, and well-marked aching in the back of the head and neck, and in the shoulders. This patient has improved very greatly during the year that has since elapsed, I am told, but she still suffers from her melancholy, and occasional insomnia, but I have not been able to inform myself in regard to the post-cervical aching, as I have never seen her but upon the one occasion of the consultation with her attending physician.

CASE XXV.—Female, aged forty. She has a causeless melancholy, slight hallucinatory tendencies, has talked longingly of suicide but has made no attempt at it; has suffered from obstinate insomnia, and has considerable distress in the back of the head. This patient refused to be treated, and I know nothing further accurately of her history.

CASE XXVI.—Female, aged thirty-two. She had had slight melancholy, entirely causeless; had spoken about suicide, but never made any attempt at it; suffered from insomnia for about two weeks, and also from distress in the back of the head and neck. This case has made an excellent recovery in some six weeks under treatment of the attending physician, and when I saw her in consultation she was only suffering from the distress in the back of the head and from slight melancholy. This was altogether one of the mildest cases that I have ever seen in my life

CASE XXVII.—Female, aged twenty-five. This patient had a severe attack of melancholia, with considerable agitation, obstinate insomnia, marked suicidal tendencies, but manifested no symptoms of the post-cervical aching. I attended her for some eight weeks, during which her condition did not materially improve, except that the insomnia was successfully combated with hypnotics. She then passed out of my charge; whether she afterward had a post-cervical ache or not, I am unable to say, or as to what her further symptoms were.

CASE XXVIII.—Female, aged twenty. This was a case of mild melancholia agitata, with marked melancholia and melancholy hallucinations, and some slight mental confusion. This patient committed suicide in a most determined and seemingly intelligent manner by taking the poison known as "Rough on Rats."

CASE XXIX.—Male, aged sixty-seven. This patient is suffering at the present time from melancholia, with marked suicidal and homicidal tendencies, slight hallucinations, and great insomnia, but has no post-cervical ache.

CASE XXX.—Male, aged thirty-seven. Came to my office complaining of pain in the back of the head and neck. Something in the man's manner aroused my suspicions, and I found that he had, about six years ago, while living in Farther India, an attack of insomnia, slight mental confusion for a short time, and suicidal tendencies, all these symptoms having lasted about six months, and since this time he has had an aching post-cervically, which often passes away and leaves only a neuralgia over the left ear and scalp. This patient recovered.

CASE XXXI.—Male, aged thirty-four. Is very melancholy and apprehensive, has obstinate insomnia, sleeping about four hours with large doses of sulphonal, and has a constant drawing pain in the neck and shoulders. No suicidal tendencies. This patient has recovered.

CASE XXXII.—Female, unmarried, aged twenty-eight. For about a year has had constant and great insomnia, pronounced melancholy, occasionally becoming greatly agitated and so marked that she would shut herself up in her room and cry incessantly. Has constant pain in the occiput, which is at times quite severe. Has slight delusions.

CASE XXXIII.—Female, unmarried, aged thirty. Great melancholy for the last six months, and obstinate insomnia for the same time. Has a weary aching feeling over the back and the top of the head. During the last ten years she has had several similar attacks, lasting two to three months, with insomnia, aching post-cervically and at the vertex. In one of these attacks she had a hallucination of sight, otherwise no hallucinations or delusions in any of these attacks. Has had suicidal ideas frequently suggest themselves to her, but has been able to repel them.

CASE XXXIV.—Female, married, aged forty-two, wife of a physician, came to me complaining of great aching distress in the back of the head and shoulders. This led me to interrogate her closely, when I found that she had just recovered from an attack of typical melancholia with obstinate insomnia, marked suicidal and homicidal tendencies, which nothing but her strong religious feelings had enabled her to control, and which she had suffered for some six months without daring to tell her husband. This patient has recovered.

CASE XXXV.—Female, married, aged thirty-three, sent to me by a physician. About nine months ago was attacked with melancholia shortly after severe domestic misfortune, suffered for three consecutive nights absolute sleeplessness, and then began to suffer from pain in the back of the head and down the spine. Since the onset the melancholy and the ache have been present almost the whole time, but the insomnia has been treated with fair success, although she still sleeps badly, and is a long time in getting to sleep. At first she had optic hallucinations occasionally.

CASE XXXVI.—Female, unmarried, aged twenty-six. About one year ago, after great worriment and night work in nursing her mother, she began to be very sleepless, and to have an aching feeling in the back of the neck, and became very melancholy. In the last three months she has heard a constant crackling sound at the back of the head. Has never had the slightest suicidal feeling.

From the histories of these patients, thirty-six in all, it will be seen that the symptoms to which I have called attention were present with remarkable uniformitv. It is a curious fact that all of them were cases of simple melancholia, and that they thus furnished additional proof of what I had stated in my first article, that the severer forms of that mental disease seldom had insomnia or the post-cervical ache. Every physician is well aware that melancholia can be classified into four types, simple melancholia, stupid melancholia, melancholia attonita, and melancholia agitata; and it is well known that the salient characteristic of stupid melancholia is, as the name implies, such mental confusion as amounts to stupidity, while the other forms are characterized respectively by a cataleptoid condition and great agitation. In all of these severer degrees the symptoms are so well marked that there is no difficulty in recognizing the cause of the mental impairment and the suicidal impulses. The lighter phases of the disease, however, are generally so ill defined that the general practitioner is apt to be puzzled, while even the neurologist may for a time be in doubt. Indeed, one can scarcely pick up a newspaper without reading an account of [some suicide, frequently also of some homicide, of a patient who was supposed to be suffering from neurasthenia, and whose suicidal or homicidal act is satisfactorily accounted for, at least to the mind of the public, by some preceding love affair or some business reverse or disappointed hope or ambition. If, then, the three diagnostic symptoms to which I have called attention, insomnia, melancholia, and post-cervical ache, are present, either altogether, or in groups of two, in all these simple cases of melancholia, as I think my cases warrant me in assuming that they are, we have at our disposal a triad of symptoms of great diagnostic value. Let us analyze them in detail.

Of the thirty six individuals, in thirty-four the melancholia was accompanied either by the post-cervical ache or the insomnia; in other words, in only two was one or the other of these two latter symptoms lacking. In nineteen cases of the thirty-six all three symptoms were present, melancholia, post-cervical ache, and insomnia—namely, in fifty-three per cent. In seven the post-cervical ache was lacking, nineteen per cent. It is curious that the insomnia was lacking in only two cases, three per cent., and that in those two the post-cervical ache was also absent. It will also be observed that in certain of these individuals the melancholic symptoms are in close relation to intestinal derangement, and at first sight it would seem that the latter are the cause of the former; but the progress of these cases will show that both the mental and intestinal symptoms are due to the one underlying disease, melancholia, while any experience in treatment will furthermore demonstrate that remedies addressed to the digestive tract will have only a temporary and adjuvant effect on the melancholia.

Melancholia is different from mere depression of spirits, as can be seen if the patient is closely observed. Each melancholic individual has a peculiar facies, which it is difficult to describe, but which, as near as I can put it into words, consists of a slightly suspicious look, a sadness that is seldom lighted by a smile, and an evident effort in thinking. This last factor can usually be brought more distinctly into relief by a little careful questioning and attention, because it is due to a dull cerebral reflex. Ask a patient a question, for instance, then watch the face keenly, and it will be perceived that there is a perceptible interval between the reception of the asking sound and the answer, during which interval the expression is one of some mental effort, such as an ordinarily quick and healthy mind will only need to make when it encounters a mental problem of unusual difficulty. The patient is generally aware of this dull cerebral reflex, and confesses it by stating that he has to concentrate his mind upon the question asked him. If we realize that these cases of slight melancholia are not only slightly dulled in their mental operations but that they are also incapable of receiving a pleasurable sensation, we can understand why the facies should be thus peculiar. As a matter of fact, melancholiacs are, as Talleyrand said of the great Napoleon, unamusable, although to an extent of which Talleyrand perhaps never dreamed. It is through the different sensations that a human being receives his pleasure in life, such as the optic, auditory, gustatory, olfactory, tactile, temperature-bearing, and muscle-sense-bearing, as well as through the different visceral sensations coming from the sexual and other internal organs of the body; but a melancholic, suffering from a cellular disease of the cortex, whose exact nature is as yet unknown to us, receives only unpleasant or even painful sensations through all these different nerve-tracts, so that it is as impossible to give pleasure to such a melancholic cortex as it is to refract unimpaired in its color a ray of yellow light through a pane of blue glass. While the same thing is true in varying degree of mental depression due to many other diseases than melancholia, it is never to be observed in such totality. Out of the warping influence of this melancholic cortex, too, springs the suicidal impulse which is so marked a feature. An almost universal expression with this class of patients is that they have been through hell, and I have time and again heard even ministers of the gospel, ordinarily choice in their language, make use of this expression with no profane intent whatever. Still, it is by no means always easy to obtain a clear history of the extent of the melancholia until the full confidence of the patient has been gained, and even then they are very prone to deny the suicidal impulse to which they may freely confess when they have convalesced.

The post-cervical ache does not always consist of aching, and yet I have not intended any paradox in so naming it, but I have selected this somewhat indefinite term because patients find it so difficult to describe the peculiar sensation, which is apt to vary in each case. One will speak of it as a "drawing," another as something uncomfortable, another as actual pain, another as vague aching, another as a fulness, another as a "creeping," another as a wild feeling that startles him and makes him feel hysterical, another as a numbness and tingling, while in some few it may consist of actual fibrillary twitching with an accompanying vague muscular sensation. In most cases this post-cervical ache disappears upon full recovery, although it is apt to recur for years afterward whenever the patient's general health becomes impaired, or it may have a sequelæ of neuralgic attacks, one of my patients, curiously enough (Case XXX.), having had a neuroma form upon one of the nerves implicated. In the imperfectly treated cases, however, this post cervical ache is very apt to be persistent and to cause great distress for many years.

The insomnia varies greatly in degree. In some cases it may be so great that the patient will only obtain an hour or two of sleep for months, while in others it may only cut off a few hours of the usual slumber, or even occur only from time to time, or for a short time after the onset. Usually it persists for months after the other symptoms have disappeared, and, if not properly treated, it may last for years, as in Case XI., where it had made life miserable for five years; indeed, I attach so much importance to this symptom that I never consider a patient cured until the tendency has been thoroughly eradicated. In some few cases, however, it happily disappears with promptness and does not return.

By means of these three symptoms, therefore—melancholia, insomnia, and post-cervical ache—I feel certain

that we can differentiate cases of simple melancholia from all other forms of disease. Let me say just here, in order that there should be no confusion about my position in this matter, that I do not claim for these three symptoms separately the diagnostic value which I do claim for them when grouped together. We should never forget that just as we have so many letters in our alphabet from which in varying combination are formed the different words that constitute our language, so have we so many symptoms in medicine which can be readily catalogued and from the varying combinations of which we make our diagnoses of the different diseases, and that, just as the individual letter is of small importance, so is the individual symptom of relative insignificance. Melancholy can be excited by many causes, such as our late influenza, typhoid fever, great emotion or pain, hysteria, and neurasthenia, in which latter the most frequent type presenting it is that which occurs after railway accidents and other traumata. But in none of these, if I may trust my own experience, does the melancholy patient have the peculiar facies, compounded of the organic sadness and dull cerebral reflex. Insomnia, too, is observed in many diseases, especially those of an asthenic nature, and from worry, the emotions and the passions, but in these types it is not apt to be persistent, it is readily relieved, it is not accompanied by the peculiar melancholia which I have attempted to describe, nor by the suicidal impulses or the post-cervical ache. The post-cervical ache—bearing in mind, of course, what I mean by this arbitrary term—is also observed in the different forms of neurasthenia, in so-called spinal irritation, in hysteria, and occasionally without recognizable cause; but in these instances there is no attendant insomnia or melancholia

NOTE.—Since writing the above, my friend and former pupil, Dr. S. Grover Burnett, of Kansas City, Mo., has confirmed my observations in several cases. ("The Diagnosis of Incipient Melancholia," *New York Medical Journal*, May 2, 1891.)

6 EAST FORTY-NINTH STREET.

THE MAMMÆ AND THEIR ANOMALIES.

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COMPARATIVELY little has been written upon anomalies of the breast; indeed, in many obstetrical works they are not even mentioned, and in the writings of those who have investigated these conditions we find many contradictory opinions regarding their frequency and location.

It has been noted that the mammæ are in many cases of unequal size. The left is said to be often larger than the right. And the condition is accounted for by the fact that the left breast is more commonly used during lactation, the greater facility with which the child is held on the left arm, allowing the right to remain free to attend to any manipulation not requiring both hands. Still the opposite condition is also stated as the more frequent, and it would seem reasonable that the right breast should be the larger, partaking, as it must, of the general increase of volume of the right side over the left. A case is reported where both breasts were congenitally absent. This condition and the absence of a single breast is very rare, though there is a case on record of absence of one breast, said to have resulted from a maternal impression; the mother was frightened during the third month of pregnancy by a beggar exposing scars after removal of the gland for cancer. Mammæ of infantile size in the adult are generally accompanied by some ovarian defect or absence of these organs, while a too early and too great development of the breasts, of which several cases are noted, accompanies precocious development of the sexual organs. I am aware of such a condition existing in a young lad, and also in a girl of nine years of age who is menstruating. Among the curious anomalies reported is a case in which milk-secreting organs were developed immediately below each other on the upper part of the abdomen. I have also to report a similar growth of mammæ in a male (Fig. 6).

It is related that the fact of Anne Boleyn having a third breast was the reason Henry VIII. had her put to death.

Polymazia is much more frequently found than amazia, and polythelia or supernumerary nipples is said to be quite common. Rudimentary mammæ and nipples occur, according to some writers, once in every five hundred persons, and others state that they are found even more frequently.

FIG. 1.—After Sutton.

FIG. 2.—After Sutton.

These excesses of formation have been looked upon by theorists as a return in the direction of an earlier type, or a condition of atavism. Meckel says the earliest of our species had five mammæ, two pectoral, two axillary, and one near the navel. Isis, a goddess of the Egyptians, is sometimes represented as having but one breast and at others as having several. Diana, of Ephesus, is also represented with several breasts, typifying bounteous nature. Extra mammæ are most frequently found in the axilla or below the normal site, or they may be placed in the groins, on the thigh, or on the back. A writer of note states that most supernumerary glands are placed below and internal to the normal situation, and very rarely in the axillary space. Others look upon the axilla as one of the rarer situations for this anomaly. One author denies that they exist on the abdomen, but records five cases of axillary mammæ. Another observer has seen none in the axilla.

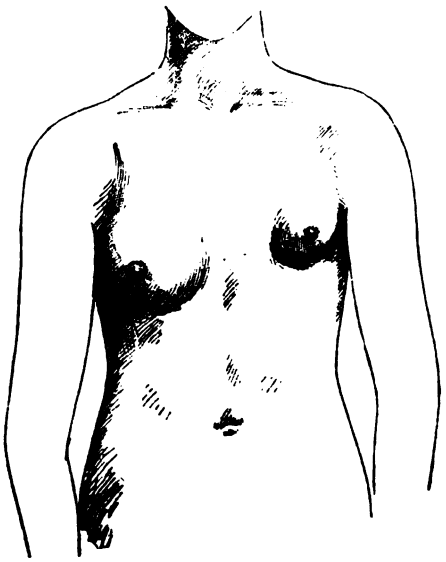

FIG. 3.

The axillary glands may have a nipple, or only a minute orifice, or the milk may exude through several minute canals. The case of a girl is reported with a nipple on her face below the lobe of the right ear. It had an areola and increased in volume during menstruation. After removal the microscope determined the true character of the growth. A case where a supernumerary mamma existed in the labium majora has also been reported.

The number of these supernumerary organs may vary

from one to half a dozen. An instance is reported of three brothers having four breasts each. A supernumerary breast may have no nipple, but its secretion will ooze through the skin. Hypertrophy of the nipple alone is exceedingly rare, but they have been seen as large as an egg. I have had a case under observation where they were too large in diameter for the infant's mouth, making it impossible for the child to suckle without an artificial nipple. A breast may have two nipples, both secreting milk (Fig. 1). Absence of the nipple is very rare, but imperforate nipples much less so. In November, 1890, I attended Mrs. F—— during her second confinement. In neither of them was she able to nurse the infant, and although on both occasions the breasts filled with milk, none came through the nipple. This was probably the result of an inflammatory condition when she was an infant, as painful swelling of the breasts is frequently seen in the new born. It usually lasts, however, but a short time. Sometimes a little milk and a viscid fluid can be expressed from the nipples. Imperfect development of the breasts is not infrequent, and examples of primiparæ, especially of American nationality, who cannot nurse their offspring are frequently met with. These women may, however, after subsequent pregnancies, have an abundant supply of milk. The failure is the result of tardy development of the glands. Some fifteen cases of polymastia are reported in American medical literature.

Fig. 4.

Supernumerary nipples and mammæ are described as more common in men than women, and supernumerary nipples in men are said to be of extreme frequency. When we see a bifid nipple (Fig. 1), or two separate mammæ coalesced with two separate nipples (Fig. 2), we know that the anomaly is due to division of the gland germ, or dichotomy. It has also been maintained that the favorite situation for supernumerary mammæ is the axilla, where they may be found with or without nipples. The skin of the axilla in parturient women frequently presents enlargements which may attain the size of a hen's egg. Such enlargements do not possess ducts or pores, and usually, it is stated, attract attention about three days after labor. They increase in size with the breasts, but as a rule diminish in about two weeks after delivery. They are limited to the axillary region covered with hair, and may be made occasionally to furnish milk on pressure, but do not exude spontaneously, thus differing from two of the cases which I shall report.

Cases are recorded of supernumerary nipples with ducts or pores, from which, after delivery, milk and colostrum could be expressed. In some few cases the axillary glands are really continuations of the lobules which are prolonged outward beyond the limits of the breast. One observer, in post-mortem examinations of axillary mammæ, found a cord like prolongation only once in fifteen cases.

Fig. 5.

In lateral curvature of the spine, it is said that there is a marked difference in the development of the breasts—the one on the flattened side is always much smaller than the one on the protruding side. In the following case the patient's spine is perfectly straight.

Case I. (Fig. 3).—Mrs. G——, aged twenty-six; very anæmic; right breast and pectoral region at least one-half larger than the left. She ascribes this condition to the fact that she nursed much more frequently from it on account of the left secreting a too scant supply of milk. There is a very marked difference in the loudness of the respiratory sounds on both sides, which may be due to the difference in the thickness of the chest-walls, the left side being very flat.

The following case of supernumerary mammæ occurred in my practice.

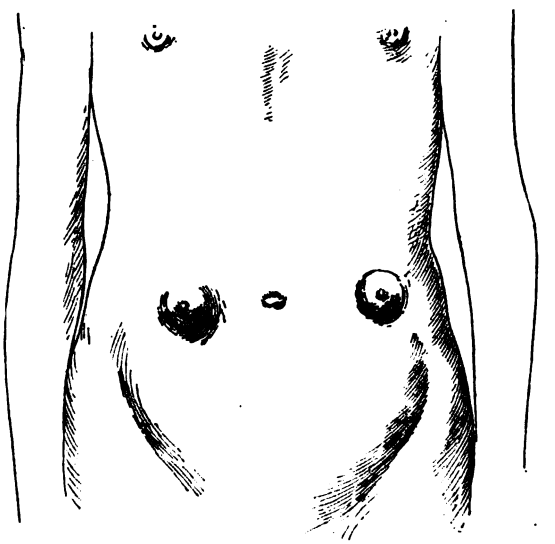

Fig. 6.

Case II. (Fig. 4).—Mrs. MacA——, aged twenty-four; well developed physically; health has always been excellent. At her second pregnancy, and on March 3, 1891, after an easy labor, she was delivered of a strong, perfectly formed infant. About the third month of her pregnancy the axillary glands had filled with milk; before that they were perfectly flat, and gave her no inconven-

ience. On examining them carefully, I found a large brown supernumerary areola situated in each axilla, of a lighter shade than that on the breasts, but no sign of a nipple. The milk, which flows continuously, but most freely while she is nursing, exudes through the pores of the skin, and can be readily seen as it starts and wells up from the minute orifices. It is thick, strongly alkaline, and contains colostrum corpuscles. The condition is very disagreeable to the patient, as it keeps her clothing constantly wet and stains it.

CASE III. came under my observation through the kindness of Drs. Murphy and Fitzgerald. Mrs. E——, aged nineteen, is well developed and has always been in good health. Has had two children; the first was bottle-fed. Her second pregnancy terminated on March 8, 1891. Nothing unusual was noticed until four days after labor, when she found milk flowing from the left axilla. On examination two large orifices were seen, with two or three smaller ones in the same region. They exude milk constantly, but "twice as fast when nursing." The milk would soak through her dress and jacket, leaving a yellowish stain.

CASE IV. (Fig. 5).—B. B——, aged twenty-six; single; of nervous temperament. A supernumerary gland on her right side was first noticed at her birth. Her menses first appeared at fourteen, and she has had pain in all three glands during her menstrual periods. Two years ago all the mammæ increased in size simultaneously. This supernumerary gland has been subjected to the pressure (often extreme) of a corset for fourteen years. It now extends from the seventh to the ninth rib, and has an oval shape following the intercostal space. For this case I am indebted to my friend, Dr. M. C. O'Brien.

CASE V. (Fig. 6).—Mr. B——, aged thirty five, entered the Harlem Hospital for the treatment of a fractured patella. An extra mamma was observed on a line with the navel, and another a little below it. The nipple of the one on the left side is four and a half inches from the umbilicus, while the other is but three inches from it. Under microscopical examination the secretion of the glands was found to be milk with a large proportion of colostrum corpuscles.

CASE VI. (Fig. 7) is from a photograph of the case of Mr. Charles J. D——, aged forty-six. This man has

FIG. 7.

a supernumerary gland which is in the posterior portion of the left thigh, just below the gluteo-femoral fold; his sister states that it was first noticed at birth It is as large as the normal breast of a young woman, and its lobular structure can be distinctly determined on manipulation. On its surface are seen large blue veins, but there is no areola and the skin on the nipple is perfectly smooth.

CASE VII. is that of a young man who has a perfect but diminutive supernumerary nipple, placed about two inches below the normal nipple of the left side, and slightly nearer the median line.

CASE VIII. (Fig. 8) shows the location of a supernumerary gland in a child. Rosa R——, aged seven weeks, was brought to the clinic of Dr. M. R. Richard, through whose kindness I obtained the case for observation. There was nothing abnormal noticed at birth, and it was while examining the infant for another condition that the doctor discovered the nipple. It is slightly larger than the normal ones, and its location is very uncommon.

The notes of the two following interesting cases were obtained through the courtesy of Dr. Leonard S. Rau.

CASE IX.—Miss R——, aged twenty-six; neurasthenic temperament; is very delicate and frequently hysterical. In this case no glandular development whatever can be detected; the condition is the same as in the male breast, nipples alone existing.

CASE X.—Miss F——, aged eighteen. When thirteen years old was supposed to have been struck in the right

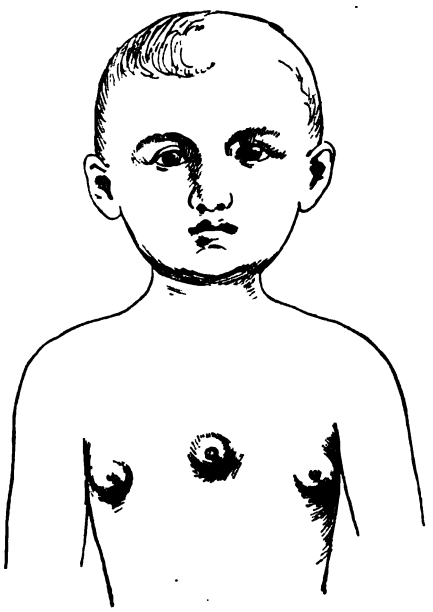

FIG. 8.

breast by her sister; shortly after that the breast began to develop rapidly, until it reached the size normal to a young woman of twenty; the other breast remained undeveloped. She was seen by a number of leading physicians of this city, and an eminent surgeon pronounced the condition one of Paget's disease, and advised removal of the breast. At present the breasts are normal and of the same size. Her menstruation is regular, and there is no uterine disease.

The following case is of interest in connection with the subject. John McV——, a lad of about fourteen years, was sent to the writer by a physician. The patient was suffering from excessive tenderness and tumefaction of both mammæ—a genuine mastitis. Its causation I could not learn. The lad is apparently perfectly healthy, and the history and examination gave negative results.

The preceding cases of anomalous conditions of the mammæ have, so far as I can learn, never yet been reported. The probability of glandular tissue in these situations undergoing a malignant change has been suggested. I see no reasons why it should occur, as the growths are simply excess of normal tissue. Operative interference, and the propriety of removing them, is a question that must rest entirely with the patient. It should not be urged by the surgeon. The writer does not believe it indicated under ordinary circumstances. The operation would, of course, be simple and safe, but the condition is merely an inconvenience when the glands are secreting, and will cease at the end of lactation, and the patient need only wear suitable clothing during the process. The presence of many of these anomalies is generally not suspected, and they are usually only discovered during lactation.

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125 East Eighty-third Street.

NOTES ON SOME RECENT METHODS OF STAINING FOR THE NERVOUS SYSTEM.

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NEW YORK.

One of the most fruitful methods of making important progress in the comprehension of the anatomy of the nervous system and the various pathological changes to which it is subject is unquestionably by discovering new methods of staining and perfecting old. Among the recent contributions in this direction I wish to speak of a few that have given very satisfactory results in my hands. These are Weigert's modification of his well-known hæmatoxylin stain, the so-called methylene blue method, and Ramon y Cajal's modification of Golgi's sublimate method.

Professor Weigert has recently made public[1] an important modification of his excellent alcohol hæmatoxylin stain for medullary sheaths, which dispenses entirely with the necessity of differentiation. I was permitted to experiment with this stain in Professor Weigert's laboratory before and since he communicated it, and can safely say that it has always given most satisfactory results. The technique of the method is as follows:

The tissue is hardened in Muller's fluid and treated in the usual way with eighty five per cent. alcohol and then an equal time in absolute alcohol and afterward for a similar period or longer in celluloidin and then embedded on cork. Then comes the coppering, which is one of the important steps in this method. The embedded pieces are allowed to float for twenty-four hours in a mixture of equal parts of a seven to ten per cent. seignette solution (tartarated soda) and a cold saturated solution of copper acetate which is kept at an equable temperature of 38° to 40° C. in an incubator. They are then transferred to a mixture of equal parts of a similar solution of acetate of copper and distilled water and allowed to remain for twenty-four hours, also in the incubator. The pieces then remain in eighty per cent. alcohol until cut.

The next important point to bear in mind in order to get good results is that the sections should be cut very thin, otherwise the differentiation will not be sharply defined.

The staining fluid is composed of 1 part of the ordinary alcohol hæmatoxylin solution (1 to 10), as used for the old method, and 9 parts of a water solution of lithium carbonicum, or, as ordinarily prepared, 5 parts of the former to 45 parts of the lithium solution. It should be noted that this mixture must be freshly prepared each time as needed. The sections are allowed to remain in this fluid for from four to twelve hours, a longer period does no harm, however, as I have frequently left them in it twenty-four hours, with excellent results. They are then thoroughly washed in distilled water, dehydrated in ninety per cent. alcohol, and clarified first in anilin xylol (2 to 1), and afterward in clear xylol and mounted in xylol balsam. In some cases when Canada balsam is used as a preservative in which there is an excess of turpentine or ether a fading of the color will take place gradually and completety destroy the specimen. Therefore one should exercise a care that the xylol balsam used is of the purest. This modified method may be used for all the purposes of the old with the exception of celluloidin series and thick specimens. In these it may be used, but differentiation must then be done in the ordinary way.

In some conditions where it is desirable to have the groundwork particularly light the preparations can be washed in a very weak solution of acetic acid (one fifth to one half per cent); but it is found quite sufficient as a rule to allow them to remain in distilled water somewhat longer than ordinarily to bring them to the paleness desired. The advantages of this methed of staining are that it dispenses with the tedious process of differentiation; it brings out more distinctly than the old the finest medullated fibres and the distinction between these fibres and the cells and other components of the tissues are more plainly marked. In preparations from the cortical substance of the cerebrum, for instance, where the ordinary hæmatoxylin stain is not always reliable, this method has succeeded admirably with well hardened and well-coppered tissues. In pathological conditions and in studying the anatomy of the nervous system in the lower animals it has also been very satisfactory.

The technique is in no way more difficult than in the ordinary method if a bit of care is taken that tissues are well hardened and properly coppered.

Professor Weigert does not put the modified method forward in order that it may supplant the old, but with the belief that it will prove simpler and more serviceable in some conditions.

The methylene blue method, which has been so carefully studied by Ehrlich, Mayer, Retzius, and others, is a method by which our knowledge of the peripheral nervous system has been very materially augmented and one by which many as yet very dubious things will be elucidated. It consists of injecting a solution of methylene blue into the body of a living animal or into the tissues of a recently removed part, and based upon the now known fact that this agent colors alone the fine distributing fibres of the nerves, their communicating ganglia and their endings. The solutions are made from rectified methylene blue, prepared by Dr. George Grübler, of Leipzig and put up in gramme packages designated as Ehrlich's and Mayer's, and I have succeeded in my experiments equally as well with one as with the other. The strength of the solution advised by Mayer is one gramme of the color to 300 to 400 c.c. of a one-half per cent. solution of sodium chloride. This is injected directly into the circulation, as into the jugular of the rabbit, or simply into the tissues. In the frog it is convenient to inject it into the lymph-sac or the venæ resp. mediæ. And in earthworms, with which I have worked somewhat with a view to determine their exact innervation, and which I expect to publish later, I have injected it directly into the body of the worm after the earth contained in them had been removed by feeding them on blotting-paper for a few days. Professor Mayer tells me that he has often injected it into the vein of a recently amputated part and secured very satisfactory results.

The amount injected varies of course with the size of the animal, but I find that from 6 to 8 c.c. is generally sufficient for a frog, and if more be injected there is danger of the animal's death before sufficient time has elapsed for the coloring process to take place, which generally takes from one to three hours. Mayer also says that the coloring can be brought about by allowing frogs to live in a moderately weak solution for several days, but my experiments in this direction were made with, as

[1] Wanderversammlung der Sudwestdeutschen Neurologen und Irren artze zu Baden Baden, June 7, 1891.

I afterward found, a poor preparation of the color stuff, so I was unable to confirm this.

A few hours after an injection the animal is killed and the tissues examined at once, for although the coloration of the nerve-fibres is at first intensified by being exposed to the air it soon begins to fade. If the experiment is successful the nerves distributing to the peritoneum, bladder, muscles, etc., with their interlacings and ganglia will be seen stained a remarkably distinct blue, especially the single and spiral nerve-fibres, the nerve fibrillæ, etc. In this way I think I have often seen the nerves supplying the sense of taste to the tongue ending directly in the taste-corpuscles.

The great difficulty attending investigations with methylene blue thus far has been the disappearance of the coloration after a short time. Many experiments have been made with a view of preventing this, and although thus far no absolutely reliable agent has been discovered, the one that succeeds best is by use of the solution designated as Mayer's pikrate of ammonia glycerine solution, made by taking equal parts of a concentrated watery solution of pikrate of ammonia and glycerine. After making the preparation by teasing, a few drops of this solution are allowed to flow over it, and then covered with a cover-glass. Professor Mayer has recently shown me some preparations that he has succeeded in preserving in this way for a long period, and they appear to show the results to-day as well as at first.

The importance of this method is at once apparent in showing the peripheral distribution of nerves, the ways of union by nerve filaments, their interlacings, their relations to ganglia, and the structure of the nerve itself. Any one specially interested in this method of work will derive great help, and also see what excellent results can be obtained, by consulting the magnificent work of Retzius, now being published in parts, termed "Biologische Untersuchungen."

A stain that has now passed the probationary period and placed itself on a permanent foundation of usefulness is the one known as Ramon y Cajal's, a modification and improvement of Golgi's nitrate of silver and sublimate staining. By Cajal's method the process is much shorter and the results far better and more certain than by Golgi's.

The technique is as follows: Small pieces of the central nervous system, embryonal or otherwise, are hardened in the following solution:

3 per cent. solution potassium bichromate	20 parts.
1 per cent. solution osmic acid	5 parts.

Or the mixture may be made up of

Potassium bichromate.....	3 parts.
1 per cent. solution osmic acid	25 parts.
Aqua destillat.....100 parts.	

The tissue is allowed to remain in this solution for twenty-four to thirty-six hours, in the dark, and changing it after a few hours will be of advantage. This process of hardening is of greatest importance, for if it is insufficient the deposit of the silver salt later will be in the shape of a granulous precipitate; while, if the hardening be too great the deposit does not take place at all. As a rule, twenty-four hours is quite sufficient for small bits of embryonal tissue, but larger pieces and those taken from grown animals will require forty-eight. When the hardening has been quite right it will be found that the silver nitrate deposits itself in extraordinary fineness in the nerve protoplasm, and presents a wonderfully distinct picture.

After the hardening the tissues are subject to the following solution: ¾ per cent. argentum nitrate, and in this they remain for twenty-four hours. The cutting is then done free hand, or on a freezing microtome, but as one of the important factors is to have the preparation thick, the free-hand method is advisable. The preparations come first in 40 per cent. alcohol, and afterward dehydrated for a very short period in absolute alcohol and cleared rapidly in oil of cloves and preserved in xylo or dammar balsam without a cover-glass. Or the preparation may be placed on a cover-glass fixed in a small wooden frame for the purpose, and then after the balsam has hardened it can be examined from the side of the cover-glass. Or the preparation may be placed on a slide and covered with a cover-glass, supported by legs of sealing-wax; but for weak magnification simply laying the sections on a slide in Canada balsam is quite sufficient.

In this way one can get remarkable pictures of the cell-structure of the brain and cerebellum in a few hours, whereas with Golgi's method the hardening alone takes from six to eight weeks for his sublimate stain. It is particularly in the great brain and cerebellum that the cells and periganglionic spaces show the deposit of the silver salt, but Riese has recently shown that also in cord and other parts of the central nervous system this method is of great importance and value. A full reference to Golgi's method and its literature may be found in a paper by Riese, of Freiburg, published in the *Centralblatt für Allgemeine Pathologie*, for June 15, 1891.

Clinical Department.

A CASE OF AMPUTATION AT THE HIP-JOINT BY WYETH'S METHOD—DEATH.[1]

By J. D. THOMAS, M.D.,

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On Friday, July 31st, G. S——, a young man, aged eighteen, while working in front of a train of rolls in one of our rolling mills, as "catcher," failed to grasp with his "tongs" the red-hot bar, half an inch in diameter, as it came through. The end of the bar, however, struck his tongs and became slightly curled, then it struck and penetrated the left thigh of the patient about two and a half inches below Poupart's ligament, going through the long saphenous vein, the femoral vein and femoral artery. The hole produced was large enough at its entrance to admit two fingers, deeper but one finger could enter and this finger passed some distance around the inner and posterior surfaces of the femur, the curl in the bar causing the wound to take this direction. At the inquest, held after the death or the patient, one of the workmen testified that the amount of blood lost caused the place to look like a slaughter-house.

The patient was first seen by Dr. J. M. Duff, who placed a compress and bandage immediately over the wound and had him sent to the South Side Hospital, where I saw him. The patient presented a deadly pallor, rolled his head from side, and was absolutely pulseless. His condition was such that operative measures were precluded at this time—indeed, death appeared imminent. All that could be done was to prevent further bleeding. While removing the compress the artery above was controlled by digital pressure, this also gave the opportunity to make the above diagnosis. It was observed that when the compression over the artery was relaxed a little the bleeding came chiefly from the proximal end of the femoral vein and not from the artery; this could in part be accounted for from the empty condition of the arterial system. The wound was packed firmly from the bottom with a long strip of iodoform gauze and over this cotton and a loose retentive bandage were placed. The patient was then put to bed and heat applied to the limb. In the meantime stimulants had been given hypodermatically.

By Sunday, August 2d, as the patient had rallied pretty well it was deemed advisable, although the limb was still warm and no gaugrene had taken place, to proceed to amputate at the hip-joint. To this the parents of the

[1] An unreported case of amputation at the hip-joint, proving fatal, was done by me in 1880 upon a boy, aged twelve years, following a railroad injury.

boy absolutely objected, although the patient himself was willing and desirous to have the operation performed. Under the circumstances all that could be done was to re-dress the wound. The patient was placed under ether, compression made over the femoral artery and the packing removed. With slight relaxation of the pressure it was patent that closure of the vessels had not taken place. I then cut down upon and ligated both femoral vessels. As the vein was directly under the artery at the seat of operation, for fear that the ligature was not properly placed here, the end of the vein was grasped with a pressure-forceps which was left in the wound with the other dressings. For twenty-four hours after this operation the boy did fairly well, although complaining of pain in the limb. The second day following, the pain in the leg became more severe and some œdema had taken place. On the third day a slight discoloration appeared and on the fourth day began to spread upward toward the knee. After considerable persuasion the parents consented to have the limb removed, as they saw that the gangrene was slowly approaching the body. On August 6th, at 2.30 P.M., with the assistance of Drs. Arnholt, Duff, Burleigh, and other members of the staff, I amputated at the hip-joint, according to the method of Dr. Wyeth, with the exception that an Esmarch bandage was not applied. The Esmarch was not applied for two reasons, first, as the veins through which the blood returned to the body had been severed during the accident it would be useless, and second, as the limb was gangrenous septic matter might be forced into the circulation.

The directions for performing this operation after the Esmarch is applied is as follows, viz.: "Two steel mattress needles, three-sixteenths of an inch in diameter and a foot long, are used. The point of one is inserted an inch and a half below the anterior superior spine of the ilium, and slightly to the inner side of this prominence, and is made to traverse the muscles and deep fascia, passing about half-way between the great trochanter and the iliac spine, external to the neck of the femur, and through the substance of the tensor vaginæ femoris, coming out just back of the trochanter. About four inches of the needle should be concealed by the tissues.

"The point of the second needle is entered an inch below the level of the crotch internally to the saphenous opening, and, passing through the abductors, comes out about an inch and a half in front of the tuber ischii. No vessels are endangered by these needles. The points are protected by corks to prevent injury to the operator's hands.

"A piece of strong white rubber tube, half an inch in diameter and long enough when tightened in position to go five or six times around the thigh, is now wound very tightly around and above the fixation-needles and tied.

"The Esmarch bandage is removed, and five inches below the tourniquet a circular incision is made, and a cuff, which includes the subcutaneous tissues down to the deep fascia, is dissected off to the level of the lesser trochanter, at which level the muscles and vessels are divided squarely and the bone sawed through.

"All vessels (including the veins) which can be seen are tied with catgut, and the smaller bleeding points can be discovered by slightly loosening the tourniquet, which is then entirely removed.

"The remaining portion of the femur is now easily enucleated by dividing the attached muscles close to the bone and opening the capsule as soon as it is reached. On lifting the end of the bone in the direction of the patient's navel, and dividing the cotyloid ligament posteriorly, the air enters the cavity of the acetabulum and greatly facilitates the division of the ligamentum teres."

In my case the vessels were occluded by twisting. The remaining portion of the femur was enucleated by first making an incision along the outer side of the bone up to the acetabulum, then it was rapidly freed, with a scalpel, from all the soft tissues, the capsular ligament was severed for some distance parallel with the rim of the acetabulum, when air rushed in and made the severing of the ligamentum teres a very easy matter.

Taking into consideration what the patient had gone through, his condition after the operation was excellent, and so remained until the morning of the 8th, or for thirty-six hours, when he began to fail rapidly, and died about 8 P.M. from exhaustion.

The result might have been different had the amputation taken place on August 2d. As the patient was a minor he had no legal authority to permit the amputation to take place, neither had the hospital staff any authority to do the operation so long as the parents objected. In other words, the law permits the ignorant to dictate to the surgical staff of a hospital when an operation shall be performed.

There are two points in the technique of the operation which I desire to notice. According to the directions the outside needle is to be introduced one and a half inch below the anterior superior spine of the ilium, and slightly to the inner side of this prominence. By bringing the needle "slightly to the inner side" it is brought close to Poupart's ligament and a little too high for the coils of rubber tubing to press immediately below this ligament, which they must do to be efficient. This is exactly what happened in my case, but as the femoral vessels were already ligated it made no difference. I think this miscalculation can always be avoided by first laying the rubber tubing over the artery at the proper place below Poupart's ligament and then using the lower border of the tubing as our guide, regardless of the spine of the ilium. The other point is to clear the bone of all tendinous and other soft tissue connections before attempting the disarticulation at the joint.

DIPHTHERITIC CONJUNCTIVITIS TREATED BY CONTINUOUS ANTISEPTIC IRRIGATION.

By E. L. OATMAN, M.D.,

NYACK, N. Y.

In the spring of 1885 an epidemic of purulent conjunctivitis was prevalent in one of the asylums for children situated in this county. There was coincidently developed in the same institution a fatal type of diphtheria.

Lizzie M——, aged ten, while convalescing from a severe attack of the latter disease, contracted the ophthalmia. Dr. A. O. Bogert, who was in daily attendance, recognizing the peculiar features of the case, isolated it at once. I saw her twenty-four hours later and found a severe case of double diphtheritic conjunctivitis, the palpebral and ocular conjunctiva were infiltrated with, and covered by typical diphtheritic membrane. Central corneal necrosis had already commenced. The apparently hopeless nature of the case led me to disregard the rules against operative interference. Thoroughly cleansing the eyes with a saturated solution of boric acid, I performed canthotomy and paracentesis on both eyes. By means of a fountain syringe the conjunctival surfaces were now continuously irrigated for the next four days with the boric acid solution, the nurse everting the lids—a procedure rendered easy by the canthotomies—and playing a gentle stream incessantly into the eyes, alternating between them every three or four minutes. During the first twenty-four hours the fluid was used ice cold. At the end of this time the false membrane showed signs of separation, and had not extended to the canthotomy wounds; but as the corneal opacities were slightly increased, ice was discontinued in the solution and it was used at a temperature of about 100° F.

The following day showed a decided improvement, especially of the cornea, and from this time the favorable progress of the case was uninterrupted, the corneal infiltrations separating as superficial sloughs, leaving the

corneæ clear but astigmatic. The irrigation was practised incessantly for ninety-six hours and then with gradually diminished frequency until recovery.

Hourly doses of the tinctura ferri chloridi with a liberal supply of milk-punch were used throughout. No case of undoubted diphtheritic conjunctivitis has since fallen into my hands for treatment; but in membranous, gonorrheal, and purulent conjunctivitis I confidently look for a subsidence of the acute and dangerous stage under a few hours of continuous antiseptic irrigation. Corrosive sublimate, 1 to 20,000, may be used alternately with the boric acid solution for half an hour once or twice during the day, but its continual application produces an erythema of the skin and irritates the conjunctiva. As I use this method extensively in hospital work, I have devised drains to carry off the waste water and prevent wetting the patient.

CLINICAL NOTES ON FIVE CASES OF BERI-BERI.

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During December last there were admitted to this hospital, from the Brazilian cruiser Guanabara, then at anchor in the harbor, five cases with the diagnosis of beri beri. The medical officer of the ship stated that no evidence of the disease existed prior to their arrival in these waters, though it was probably latent, and had been developed by the intense cold, to which the men were entirely unaccustomed.

Aitken defines beri-beri as "a constitutional disease expressed in the first instance by anæmia, and subsequently in acute œdema. It is marked by stiffness in the limbs, numbness, and sometimes by paralysis of the lower extremities, oppressed breathing, and a swollen and bloated countenance. The urine is secreted in diminished quantity. The œdema is general, not only throughout the connective tissue of the muscles, but throughout the connective tissue of solid and visceral organs in every cavity of the body. Effusion of serum into the serous cavities very generally precedes death."

The disease is almost entirely unknown in this country, although very common in the tropics and throughout India, Japan, and China. Its territorial range is very limited. It is usually endemic and is principally met with on the Malabar coast, in Ceylon, and in that tract of country lying between Madras and Ganjam (Hamilton).

The clinical history of the cases sent from the Guanabara followed out very closely Aitken's definition of the disease. The cases so nearly resembled each other that they may be studied in one group. On admission, the most marked symptoms were dyspnœa and stiffness about the lower extremities. The pulse-rate ranged from 80 to 110. The temperature averaged 99° F., and respirations 30. There was entire absence of pulmonary involvement. The increased respiratory rate and dyspnœa were attributed to fluid in the pericardium, the area of cardiac dulness being increased. Irritable stomach was observed in each case. In two only did œdema of the feet develop. Examination of the blood revealed a diminution of the red blood corpuscles without increase of the white. In two cases the stiffness and anæsthesia of the lower extremities was very marked, amounting to almost a complete paralysis. Improvement under treatment was very rapid. Treatment consisted in small doses of arsenic, hydrarg. chlor. corros., massage, and galvanism. In one case very strong currents were necessary to produce movements in the thigh muscles, but daily applications soon restored them to their normal tone. The cases completely recovered, and have been sent back to Brazil.

The cases are interesting as having occurred so far north, and from the success of the treatment followed.

Progress of Medical Science.

Predisposition to Tuberculous Infection.—Professor Birch Hirschfeld, of Leipzig, comments on the question of predisposition to tuberculous infection, pointing out that the prevailing theory of direct infection by inoculation of the bacillus is rapidly coming to be regarded as the only important factor in the spread of the disease. Predisposition may be classed as "general" and "local," meaning by the first term a greater or less resistance to the development of tubercle; and by the second the various factors that incline an individual organ or part to become tuberculous. General predisposition may be inherited or acquired, as in the case of diabetes. Local predisposition may depend upon the condition of the local tissues, the opportunities which they afford for the entrance of the tuberculous virus, and the amount of resistance which they set up against its development. Inherited predisposition is strengthened by the fact that, up to the present time, the evidence of direct conveyance of the disease from mother to fœtus in utero has not been well established in the human species, although undoubted instances have been reported as occurring among certain animals. Dr. Birch-Hirschfeld relates a case in which a fœtus was removed from the uterus of a woman aged twenty-three, within a few moments of her death from general tuberculosis, without any damage being done to the placenta. Portions of the liver, spleen, and kidney of the fœtus produced tuberculous disease when inoculated into rabbits and guinea-pigs, but only in the capillaries of the liver could any tubercle bacilli be discovered. In the placenta, however, the villous spaces were crowded with bacilli. The very limited evidence of tuberculous material in the fœtus might serve as an explanation of the fact that children of tuberculous parents are often born without any manifestations of tuberculous disease, and yet appear to develop tubercle during the first few years of life. A limited infection by the maternal bacilli, perhaps during the process of birth, might remain latent in one or more organs until other circumstances contribute to their development. It is thus possible that confusion may exist between "latent tubercle" and "tuberculous predisposition." That latent tubercle may remain quiescent, especially in bronchial glands, until awakened by an attack of acute disease, such as measles or whooping cough, is well known. The frequent occurrence of such latent tuberculous foci, without any other evidence of tuberculous disease, goes far to prove that resistance to tubercle is as powerful a factor as predisposition. The congestive influences of valvular disease of the heart and of emphysema upon the connective tissues of the lungs are examples of some of the mechanical causes which constitute resistance.—*Wiener Medizinische Blätter.*

Corpora Amylacea in the Lungs.—The occurrence of the objects known as "amyloid bodies" in the sputum is rare. Friedreich was the first to observe them, in 1856, and he ascribed their origin to the remains of old hemorrhages in the lungs. A very complete account of these interesting bodies is given by Dr. F. Curtis. He describes two cases in which corpora amylacea were found in the lungs. They presented a typical appearance, occurring as oval or circular grains, but when separated from the surrounding tissues by teasing they were found to be almost geometrically ellipsoidal in shape. The longest diameter was from 125 to 150 μ in the largest specimens, varying to 16 or 20 μ in the smallest. They were composed of a vitreous looking substance, stratified in irregular layers around a central nucleus, which differed in appearance from the peripheral layers, which were so arranged as to present a radiated formation. The central portion was sometimes scooped out so as to form a small hollow, from which shallow fissures extended, and sometimes was filled up with a material which was of a different composition to the rest of the

grain. In some of the bodies the nucleus was represented by a small granular mass; in others by a cylindrical one, folded upon itself. Some of the grains were enclosed in a thin crystalline envelope of a black color. In fact, all the varieties were found which had previously been described by Friedreich and Zahn. The chemical reactions were equally characteristic, and especially so in those specimens which had been preserved in Muller's fluid. A solution of iodine in iodide of potassium produced a deep-blue color, and this tint became almost black on the addition of sulphuric acid. The nucleus was stained yellow by the iodine, a fact previously noted by Friedreich. Methyl-violet caused the same reaction as in amyloid disease generally, coloring the grains red, while the surrounding tissues assumed a blue tinge. Methyl-green failed to cause any special coloration. Picro-carmine had a peculiarly selective action, staining the bodies a deep red. Lastly, methylene blue was tried and results obtained which have been noticed by no previous observers. The nuclei of cells were colored blue as usual, but the corpora amylacea assumed an emerald-green color. In amyloid disease of the liver, the tissue is stained blue throughout when similarly treated, the diseased portions only taking up the green color, when a drop of a solution of picrate of ammonia is added to the dye. As regards the pathological significance of these amyloid concretions, many diverse theories have been suggested, the two principal being those of Friedreich and Langhans. The former considered that these bodies were derived from hemorrhages in the lungs; in all his cases there was a history either of recent hemorrhagic infiltrations or traces of past inflammation. His theory was that a small clot formed locally, thus constituting the nucleus, and that fibrin was deposited in layers around it; that this formation underwent modifications, of what kind is at present unknown, which caused the bodies to assume their characteristic appearance and properties. Langhans, on the other hand, assigned to the corpora amylacea a cellular origin. In this he has but few supporters, and moreover the bodies described by him do not agree in all particulars with those now under consideration. The observations of Jurgens and Zahn corroborate those of Friedreich, and Dr. Curtis has arrived at similar conclusions from the cases which he has observed.—*The British Medical Journal.*

Changes in the Kidney in Phthisis.—The condition of the kidneys in phthisis has never been fully investigated. Several observers have described a fibroid condition. Becquerel and Rayher concluded that Bright's disease was very frequently associated with tubercular disease of the lungs. Peacock in 117 cases of kidney disease found 30.7 per cent. of phthisis. Frerichs found that out of 42 cases of Bright's disease 6 also suffered from phthisis. Bamberger stated that the disease was found in 15 per cent. of those suffering from kidney disease. Dr. C. von Kahlden is of opinion that slight degeneration of the renal epithelium is almost always found in active phthisis. It may, however, be so slightly marked that it is only visible on microscopic examination, and even then may be easily overlooked. The kidney may be either normal in size or somewhat enlarged. Microscopically the following conditions are noticed. The surface of the organ is smooth and yellowish in color; the capsule peels easily; the cortex is usually slightly thickened, and also yellow in color; the medullary portion is pale. The microscopic changes chiefly affect the cortex, the parenchyma being first attacked. The epithelial cells undergo fatty degeneration, but are occasionally replaced by fresh epithelial cells. The interstitial changes are therefore secondary, and generally slight, and take the form of a small round celled infiltration, and some increase of the connective tissue. The glomeruli also take part in the degeneration. The cortex is not uniformly affected, but the changes take place in patches. These lesions are evidently chronic, as is shown by the thickened capsule, the atrophy of some of the glomeruli, and the changes in shape of the epithelial cells of the tubules, these being altered from a club form to a cubical or cylindrical shape. Clinical symptoms which accompany the renal degeneration are unreliable. Albumin in the urine is rarely present. The author states that the condition is one of a chronic parenchymatous nephritis, and thinks that it may be caused by the poisonous products of the tubercle bacilli.—*The Lancet.*

Occlusion of Duodenum in a New-born Child.—Drs. Porák and Bernheim described a case where a woman was delivered at the eighth month of a sickly female child. There was hydramnios, and over six pints of fluid came away during labor. There were two small fibrous deposits in the placenta. On the first day the child vomited dark matter, each attack of vomiting coming on about three-quarters of an hour after suckling. On the third day, as no meconium had passed, imperforate rectum was suspected; but a sound could be passed for over two inches up the anus. An enema was given, and a little meconium came away; but the vomiting continued, and the infant died on the fifth day. The stomach was found much dilated; the lower part of the large intestine was full of meconium, but the remainder of the intestinal canal was like a little packet of worms. The stomach communicated by a contracted orifice, apparently the pylorus, with a blind pouch which had no connection of any kind with the rest of the intestine, which terminated above in a blind extremity close to the pancreas, which opened into it. In a similar case reported by Crooks in 1828, the pancreatic duct opened into the pouch connected with the stomach. Luton described in 1855 a third case, where that pouch communicated with the blind end of the intestine by a ligament. There was a similar breach of continuity between the large and small intestine. No trace of peritonitic bands could be seen in Drs. Porák and Bernheim's case.—*The British Medical Journal.*

The Abortive Treatment of Buboes.—Dr. Welander reports a second series of fifty-nine cases of bubo treated by means of injections of benzoate of mercury. In all, he has now treated one hundred buboes in this way with thoroughly satisfactory results in seventy-eight. He uses the following formula:

℞. Hydrargyri benzoatis..... gr. v.
Sodii chloridi..... gr. jss.
Aquæ destillata..... f ʒ j.
Sig.: ♏xv. as an injection.

As a result of his observations he has arrived at the following conclusions: 1. If the bubo display a virulent tendency the injection does not affect its development, and suppuration occurs. 2. When decided fluctuation exists and the skin is thin and cyanotic, the injection can only hasten the disappearance of the infiltration. As a rule, the bubo must be opened. 3. If fluctuation is considerable in degree, but the skin, though red, is thick and well nourished, the chances are good that an injection into the adjacent infiltrated area will (possibly in 50 per cent. of cases) obviate the necessity of opening the bubo. 4. If there is little or no fluctuation, it is highly probable (possibly in 90 per cent. of cases) that, even though fluctuation subsequently becomes decided and a few drops of pus ooze from the site of puncture, the bubo will disappear, leaving no trace of a cicatrix.—*Medical News*, September 19, 1891.

Fined for Saving Life.—In a small village in France a woman died in labor. There was no medical man present, but a priest was there, and he at once performed a Cæsarean section, bringing a living healthy child into the world. The priest was arrested and tried for the illegal practice of medicine, and the court imposed upon him a fine of 15 francs. The question of the justice of this sentence would make a good subject for a medico-legal debating society.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE METHODS OF SECURING IMMUNITY AGAINST DISEASE.

No class of experiments is at present attracting or deserving more attention than those which relate to the securing immunity against infectious diseases. While success has been obtained experimentally in a few diseases, no fundamental principle has yet been discovered which can be applied to all diseases. Yet such a discovery seems not impossible, and Wooldridge's method of producing immunity against anthrax, by the injection of tissue fibrinogen, is of special interest because it tends in this direction. Dr. A. E. Wright (*British Medical Journal*, September 19, 1891) has recently confirmed Wooldridge's experiments and added to our knowledge of the chemistry of the injected substance. This is prepared, we are told, in the following way:

The perfectly fresh cellular organs (testicles, thymus, etc.; in the experiments to be reported the fluid was always prepared from bulls' testicles) are reduced to a pulp in a mincing machine, and are extracted for twelve hours with water to which, for antiseptic purposes, an addition of 1 in 200 of chloroform has been made. The watery extract is then either centrifugalized, or filtered, or simply decanted. It is then precipitated by the addition of 0.5 c.c. of thirty-three per cent. acetic acid to every 100 c.c. of the extract employed. The precipitate is collected and washed with NaCl solutions of moderate strengths, and lastly with distilled water. (All these washing fluids are rendered slightly acid by the addition of a trace of acetic acid.) The precipitate is now dissolved in a one per cent. solution of Na_2Co_3, and afterward filtered.

Dr. Wright offers evidence to show that the tissue fibrinogen is a nucleo-albumin. He promises to report the results of further experiments, giving more exactness to our knowledge of how immunity is obtained in the case of anthrax, at least.

Meanwhile experiments in other directions have been going on in German laboratories. Among the most interesting of these are the attempts of Drs. G. and F. Klemperer to secure immunity against pneumonia, and to antagonize and shorten the course of that disease. It is not generally known perhaps that, in animals at least, one attack of pneumonia causes a temporary immunity against another. The experiments of the Drs. Klemperer, which were confined to rabbits, revealed that every nutrient medium in which the pneumococcus has been cultivated will, if inoculated, render an animal immune against pneumonic septicæmia, even after the cocci have been removed by filtration. The power of producing immunity is more speedily acquired, and is increased, if the infected nutrient medium (before or after removal of the cocci) is exposed to a temperature of between 41° to 42° C. for two or three days, or of 60° for an hour or two. In every case, however, it was found necessary that some interval (varying from three to fourteen days) should elapse between the inoculation and the production of immunity. Hence it was too late to cure a diseased animal, or even to prevent the onset of an attack, if the injection was given simultaneously with the outbreak of the disease. On the other hand, serum taken from animals enjoying immunity was found able, especially when introduced directly into the circulation, to cure pneumonic septicæmia. The serum was injected twenty-four hours after infection, while the animals had a febrile temperature of between 105° and 106.5° F. Eight cubic centimetres were injected, with the result that the temperature gradually sank during the next twenty-four hours. In twelve successive cases a successful result was obtained. This research therefore confirms, in regard to pneumonia in rabbits, what Behring and Kitasato did for tetanus and diphtheria. Drs. Klemperer next studied the question how the blood-serum of an immune animal cures an attack of pneumonic septicæmia, and discovered that when the pneumococcus is introduced into the body of an animal it generates a poisonous substance which can be isolated, and to which the name of "pneumotoxin" has been given. This pneumotoxin sets up a febrile condition which lasts several days, after which another substance is found to have been produced, called "antipneumotoxin," which is able to neutralize the pneumotoxin. The serum taken from an immune animal contains this antipneumotoxin, and it is by means of this substance that it cures an attack of pneumonic septicæmia in other animals. The relation of pneumonia as seen in rabbits with that met with in man was next investigated, and the conclusion arrived at that the disease in both cases is produced by the pneumococcus, but that the human body is much less susceptible to the latter than the rabbit is. Thus it was found that serum taken from pneumonic patients after the crisis could cure pneumonia in rabbits; moreover, pneumotoxin and antipneumotoxin were found to be present in human serum as in that taken from rabbits. The crisis of pneumonia, according to Drs. Klemperer, takes place as soon as antipneumotoxin is produced in sufficient quantity to neutralize the pneumotoxin. Why immunity against further attacks lasts so short a time in man is still uncertain, but possibly less antipneumotoxin is formed in man than in rabbits in proportion to the pneumotoxin. Some attempts, according to the *British Medical Journal*, have already been made to cure patients suffering from pneumonia with the help of antipneumotoxin, but further observations are necessary before results can be published.

If we were not suffering from the depression following the tuberculin failure, the imagination might easily be fired by the therapeutic possibilities of an antipneumotoxin. As it is, we can only hope for its success.

SIMPLE ADENIA, OR HODGKIN'S DISEASE.

EVERY year there are reported in medical literature three or four cases of Hodgkin's disease, or lymphadenoma. The most of these reports have been simply clinical records, and have not thrown much light upon this confessedly obscure disorder. We cannot say very much more regarding an elaborate thesis on adenia, or pseudo-leukæmia, by Dr. Jean Crocq fils, of Brussels. Still Dr. Crocq has made a most industrious collection of the previous literature of this subject, and has edited his records with much intelligence. His monograph is, therefore, a very useful one.

Out of the numberless and confusing names supplied for Hodgkin's disease, Crocq has selected Trousseau's term "adenia" as most satisfactory. If he would go a little further and distinguish between simple adenia (pseudo-leukæmia) and leukæmic adenia (leukæmia, leukocythæmia), as suggested by Langhans, there would be much less confusion in this very name-ridden subject.

Dr. Crocq collects one hundred and twenty-one reported cases of supposed Hodgkin's disease, with autopsies. But after an analysis of them he throws out all but fifty-four, which shows that there have been many careless observations or incomplete records. A clinical study of these fifty-four cases furnishes some interesting facts.

In forty six cases the disease occurred in men, so that it is about eight times as frequent in the male sex.

Simple adenia occurs oftenest between the ages of twenty and thirty, then again it is frequent between fifty and sixty. Leukæmic adenia is most frequent between the ages of thirty and forty.

Leukæmic adenia (leucocythæmia), it has been suggested, is an infective disorder (Klebs). Simple adenia is thought, however, to be due to local irritation acting upon a predisposed constitution. In other words, it is placed etiologically in the same category as the cancers, to which in its malignant course it bears resemblance. The disease is not caused by malaria, nor does it have any relation to tuberculosis.

The symptoms of the disease, as detailed by Dr. Crocq, present nothing new. The pathognomonic sign of it which distinguishes it from leukæmic adenia is the fact that there is not an increase in the white blood-cells.

The prognosis is always fatal, and usually rapidly so.

The treatment recommended by one author is purely palliative. He recommends the use of the iodides, and yet says that they do no good. He lays less stress, we believe, than should be done on the value of arsenic.

The monograph from which we have quoted shows in a very bold and striking way that there are still diseases of whose intimate nature and origin we know nothing, and before which the physician stands perfectly helpless. In the *lingua vulgaris*, Hodgkin's disease beats the doctors "hands down."

A WONDERFUL SURGICAL OPERATION.

IT sometimes seems as if, after all, it is only by careful perusal of secular literature that one can learn what is going on in the scientific world. In one of the monthly magazines there has recently appeared a description of "a wonderful surgical operation." It differs from many of the ordinary descriptions of this class in that the operation was really wonderful. For the surgeon did a double linear craniectomy with a transverse cut and two lateral cuts going down toward the ears. The child, one year of age, was apparently a microcephalic idiot before the operation, but one month later it acted and thought like other children. It was transformed into macrocephalic prodigy!

Such stories, written by persons of enthusiastic temperament and ill-balanced minds, are likely to do harm. For the operation in question is rarely indicated, is very dangerous, and is yet of doubtful utility.

ARE GEORGIA PHYSICIANS INTEMPERATE?

THIS question is suggested by the fact that the State Legislature of Georgia is said, by the *Sun*, to have passed a law to prevent drunkenness among physicians.

The Georgia statute disqualifies any medical man from further practice who has once been convicted of drunkenness, and imposes a heavy penalty upon the man thus disqualified if he attempts to practise medicine again.

In New York we have a law on the subject. It does not deal with drunkenness on the part of doctors except when they are engaged in the treatment of patients, and then it provides for punishment only when the intoxication has resulted in some actual injury to the patient. Our statute is contained in section 357 of the Penal Code:

"A physician or surgeon, or person practising as such, who, being in a state of intoxication, administers any poison, drug, or medicine, or does any other act as a physician or surgeon to another person, by which the life of the latter is endangered, or his health seriously affected, is guilty of a misdemeanor."

Another section of the same Code declares that like acts committed by an intoxicated physician, causing the death of his patient, shall constitute manslaughter.

The Georgia law is an insult to the profession of the State, because its existence implies a serious and preponderant degree of intemperance among medical men. It is in addition a form of special and class legislation of the worst character. Under it, a doctor who has led a sober and useful life for a long time may, as the result of a single indiscretion, have his career ruined and his means of subsistence taken away. But the lawyer or editor or farmer can stay drunk for a year with relative impunity. If such a statute, therefore, really exists, the physicians of Georgia should see to it that it is repealed, or be convicted of possessing neither manhood nor self-respect.

THE TWO TYPES OF AORTIC INSUFFICIENCY.

IN a critical review of the subject of aortic insufficiency by Dr. Easton Lyon (*Gazette des Hôpitaux*, June 13, 1891), stress is laid upon the fact that there are two rather distinct types of this disorder which ought to be recognized. These are the endocardiac type and the aortic type. The former affects especially young subjects, it most often follows rheumatism, it may remain stationary for years, and it is before all an affection of the heart. The latter affects older subjects, it is related to arterial sclerosis, and is especially a disease of the arteries. While

these two types may not always be distinct, and may even run together, yet the pathological and clinical difference is a distinct and real one.

Taking up the subject of the endocardiac form, Dr. Lyon goes over, first, the question of its etiology. Here the two great factors are trauma and infection, the infection being usually rheumatic fever.

Rheumatism, according to the French statistics, affects the heart's valves in about one-third of all cases, and in about one-third of these the aortic valves are attacked. The infection of typhoid, scarlatina, and erysipelas sometimes acts similarly. Trauma is a rare cause. Three-quarters of the cases are males and most of these are adults. The lesions of the valves are those due to acute and to chronic endocarditis. Under the former head we have ulcerations, vegetations, and valvular aneurisms; under the latter a reticulated condition, rupture, and valvular aneurism. The aorta is healthy, but the heart is dilated and hypertrophied.

It is not necessary to go into the detailed analysis of the symptoms as given by Dr. Lyon, since they are familiar to all. The capillary pulse, the tonsillar pulse, and the retinal and pharyngeal pulsations, are curious and striking symptoms sometimes observed in this type.

Aortic insufficiency of cardiac origin is thought to be the form of heart disease most compatible with long life, provided the patient has no other valves involved, and does not have to lead a laborious life. Cures have even been claimed by Potain and others. Sudden death is rare, though perhaps more frequent than in mitral disease. It may be due either to embolism or heart failure.

In the matter of treatment, Dr. Lyon asserts that digitalis is absolutely contra indicated, and that iodide of potassium does no good. Hygienic measures and opium are the only things recommended, and if this represents the limits of French therapy one must consider it rather barren.

Aortic insufficiency of the arterial type is really but one manifestation of a generalized arterial sclerosis. It is caused by the infectious, toxic agents, and diathetic poisons; hereditary influence is also a factor. The valves are indurated and sclerosed, the orifice dilated, the heart hypertrophied. The aorta is always dilated, and incrusted with atheromatous plaques. There is excessive arterial tension, increase of dulness at the base of the heart, a double murmur, and often local pain on percussion. The subjective symptoms are much more varied and severe than is the case in the cardiac form: anginal attacks, vertigo, syncope, dyspnœa, palpitations. Death more often occurs suddenly from heart failure, cerebral hemorrhage, or from uræmia.

The treatment here recommended is iodide of potassium, trinitrine, caffeine, milk diet, and intestinal antisepsis.

THE PATHOLOGY OF THE JEWS.

Many persons have at different times occupied themselves with contributing various facts and theories regarding the relation to disease of the Jewish race. We have occasionally been told that the Hebrew is less subject to cancer or syphilis, and is perhaps more subject to diabetes and neuroses, than other persons. This matter was discussed with an interesting candor before the Académie de Médecine quite recently. M. Worms took up the subject of epilepsy, and apparently proved by statistics that this disease was not relatively frequent among Hebrews. Among 25,000 Jewish patients, for example, there were found only 77 cases of epilepsy. In Salpêtrière and Bicêtre the number of Jewish cases was also small. M. Worms, however, agrees with Charcot in thinking that his race is rather specially disposed to neurasthenia, hysteria, tabes, gout, and diabetes.

MM. Lagneau and Bouchardat thought that the Jews were especially prone to "music and mental alienation." M. Lagneau also quoted the statistics of Frerichs and Seegen, to the effect that about twenty-five per cent. of their diabetic patients were Jews. M. Sée takes up the cudgels for the Hebrew race, and asserts that the statistics quoted are of doubtful value, and that if any tendency toward nervous and diathetic diseases exists, it was due not to ethnic causes, but simply to the urban life and commercial pursuits of the Jews. There is, says M. Sée, no pathology of the Jews, and the subject is consequently outside the pale of scientific discussion.

HOSPITAL AND DISPENSARY QUARRELS.

Our German colleagues of this city seem to have an unfortunate tendency to develop controversies in connection with their medical charities. The German Hospital trouble being, we believe, settled, reports are now abroad of an enormous disturbance in the dispensary of Beth Israel Hospital. The main trouble seems to have grown out of attempts of the lay managers to exercise authority too arbitrarily, whereupon the physicians protested and resigned. It is a satisfaction to know that, so far as the published facts indicate, the physicians here as in the German Hospital case, are in the right. But the disturbance emphasizes anew the fact that in the management of hospitals and dispensaries, there should be closer relations and the utmost harmony between the medical and the governing boards. While most members of medical boards are either too busy or too indifferent to take much interest in the debates of hospital or dispensary management, there are always some who have practical wisdom and business capacity. Possessing such qualities, and with the additional advantage of medical knowledge, their advice becomes of greatest value. Yet we regret to say that in a good many of the medical charities of the city, the attitude of medical and governing boards is almost an antagonistic one.

Music and Therapeutics.—It has lately been suggested that music might prove a useful adjunct (in some cases at least) where the usual routine treatment had not been satisfactory. We venture to suggest the following airs as being suitable for the cases enumerated, viz.: Retarded labor from inertia, "Comin' Thro' the Rye;" cases of chronic deafness, "Come Back to Erin;" epilepsy, "Let Me Like a Soldier Fall;" pyrexia, "The Coolin;" melancholia, "The Heart Bowed Down;" cases of doubtful diagnosis, "Oh, Dear! What Can the Matter Be?"—*Medical Press.*

News for Bald Heads.—Dr. Mapother finds that a diet of oatmeal and brown bread greatly promotes the growth of hair.

News of the Week.

Suing Physicians for not Reporting Contagious Diseases.—Health Commissioner Ware, of Chicago, had suits instituted against a number of physicians for failing to report to the Health Office cases of contagious diseases. The law requires an immediate report of all contagious diseases under a penalty of a fine of $100. We trust that the suits will be brought to trial and the constitutionality of the law compelling physicians to give their time and experience to the State for nothing tested.

A New and Volatile Antiseptic for the Treatment of Phthisis.—This is another effort directed to destroy the tubercular microbe which Dr. Passerini has proved to be a success! The same experimenter has long endeavored to modify the trichlorphenol, but the odor and irritation to the mucous membrane is always a serious objection to its use. Dr. Tacchini, of Pavia, has now obtained a preparation of chlorphenol which has as much antiseptic power as trichlorphenol, and is free of all the objections against the latter. Chlorphenol is a very volatile fluid, whose vapor is heavier than air. When applied to wounds, ulcers, and discharging glands the improvement is marked. Ozæna, laryngitis, bronchitis, and more particularly tubercular affections, are beneficially affected. Passerini has treated five of the latter cases with the vapor, which being heavier than air, presumably reaches the bronchioles, if not the alveoli, of the lung itself, and he finds that the bacilli rapidly disappear after commencing the inhalations. All the five cases have quite recovered, varying from two to six months from beginning of the treatment, and are apparently well at the present time. The claims put forth are: 1. The inhalation of chlorphenol is easily borne in advanced phthisis, and is convenient in application. 2. No injurious effects arise from its continuous use. 3. Changes in the quality and quantity of expectoration till pus and bacilli disappear; cough is diminished; fever is reduced; appetite and sleep soon return; the weight of the body increases rapidly, and the local improvement is speedily performed. Hence the three conditions, applicability, innocuity, and efficacy are the dominant recommendations of the drug.—*Medical Press.*

The Successor to Professor Carl Braun has been elected in the person of Dr. Friedrich Schauta, of the University of Prague, the author of a "Manual of Operative Midwifery" and numerous lesser works. He will occupy the chair of midwifery and conduct the first obstetrical and gynecological clinique.

A New Remedy for Whooping-cough is onabaine in doses of about gr. $\frac{1}{1000}$. It has been tried with success by Dr. Gemmell, of Glasgow, and lately by Dr. I. L. Porteous, of Yonkers, N. Y.—*New York Medical Journal.*

A New Disease called Germosphism has been described by Drs. Charcot and Souques (*New York Medical Journal*). The word means age-like, and the disease produces an appearance of senility. The case reported was that of a woman whose age was twenty-one, but whose physiognomy was that of sixty to seventy years. Her apparent senility was so striking that her father, aged fifty-two, had occasionally been asked if she was not his mother. The pathology of the case is limited to the skin, especially on the surface, and is a "decrepitude of the cutaneous system." Otherwise the girl had nothing old appearing about her. Her hair was blonde and of average length. Her intelligence was good, her memory precise, and her judgment reasonable, but she was readily frightened when in a crowd, or by a railroad and its noises; her emotional nature was fairly well balanced, but she was despondent on account of her appearance of age, which she had come to believe was incurable, and the slightest indisposition begot a fear of death. Her cutaneous sensibility was normal. The special senses of smell, taste, and hearing were normal. There was a slight impairment of vision, without contraction of the visual field or color-blindness; there was no arcus senilis. The hepatic, renal, and uterine functions appeared to be normally performed; a slight leucorrhœa had existed for two years. The wrinkling had begun about ten years before, at which time she received a great fright. She was then a bright, joyous child, very pretty and refined in her appearance, and always in the lead of her classes at school. When the change in the skin began, there was, for a short time, the formation of pimples, which persisted a few days and then disappeared without ulceration or mark of any kind. There was no œdema of the cutaneous surface. The wrinkling changes took place so rapidly that, it is stated, her friends were unable to recognize her if they had not seen her within the period of a fortnight; the skin at that time is described as resembling "the scales of a fish." No form of treatment, whether by electricity, hydropathy, or tonics, has been competent to improve her condition.

The Medical Department of the University of Texas starts out with a full line of new professors, whose official salaries range from $2,500 to $3,000.

A Buddhist Treatise on Medicine.—All those interested in the history of medicine, and particularly Indian medicine, will hail with scholarly delight, says the *British Medical Journal*, the announcement that an old Sanscrit treatise on the healing art has recently come to light under somewhat remarkable circumstances. The "find" is in itself hardly of such value as the work of Aristotle not long ago exhumed from the grave of oblivion in which it had lain so long entombed; but your true Dryasdust cares little for the literary or scientific quality of his treasure trove, if it but have the consecrating seal of hoary antiquity upon it. Last year, it will be remembered, Lieutenant Bower was fortunate enough, in the course of an exploring expedition in Kashgaria, to light upon a buried city in the neighborhood of Kuchar. Among the other antiquarian treasures found there was an ancient birch-bark manuscript, which was presented to the Asiatic Society of Bengal. The manuscript, which consists of thirty-three leaves closely written over on both sides, is in Sanscrit verse, and in the character known as the Nagari alphabet, of which three varieties occur in different parts of the work. The manuscript has been translated by Dr. Rudolph Hoernle, and appears to be a compendium of medicine, bearing the title of "Navanitaka," and divided into sixteen chapters. The author seems to have been a Buddhist, but, with a

modesty not always found among medical writers, he has concealed his name so carefully that Dr. Hoernle has not, up to the present, succeeded in discovering it. The work is divided into sixteen chapters, which are devoted to clysters, elixirs, eye-washes, hair-dyes, bitumen, castor-oil, women and children, etc. The prescriptions, which are given in verse, recalling to the profane mind the gnomic scraps of clinical and therapeutic lore quoted by Albert Smith in his "Physiology of the Medical Student," celebrate the wondrous effects of clarified butter, which our Buddhist brother seems to have considered the "sovran'st thing on earth" for all manner of bodily ailments. A draught containing this panacea, together with oil, treacle, vinegar, and ginger, will, we are assured, instantly conjure away the most acute lumbago. An ointment composed of thickened goat's milk and wheat flour, to which sesamum may with advantage be added, is a specific for gout and rheumatism. In addition to the pharmacological and therapeutic precepts which the work contains, the reader has, it need hardly be said, a goodly *armamentarium* of charms and spells of approved efficacy supplied to him, so that if medicine fails, recourse may be had to the "faith cure." The date of the manuscript is fixed by Dr. Hoernle between 450 and 550 A.D. It is thus, so far as is known, the oldest Indian written book in existence.

Electrical Executions.—The report of the two physicians who had official charge of the electrical executions at Sing Sing, on July 7th, shows that the application of the current in the four cases was made somewhat experimental. In the first case the current of 1,485 volts was applied for twenty-seven seconds, and, signs of life appearing, was applied again, after an interval of between one and two minutes, for twenty-six and a quarter seconds. In the next case, to ascertain whether continuance of the current, or the sudden impact of and breaking it, was more important, three contacts of ten seconds each were made, and then, signs of life appearing, a contact of nineteen seconds was made, when life was extinct. This showed that continuance of the current was important. In the third case three contacts of the current, of twenty seconds each, were made. The result indicated that they were unnecessarily long, and in the last case there were three contacts of fifteen seconds each, with intervals between them of twenty seconds. And yet we were told, before the tardy official report was published, that electrical execution was a triumphant success!

Rupture of the Stomach from the Use of the Stomach-pump.—Dr. Key Aberg publishes in a Scandinavian medical journal an account of a case in which the stomach of a patient seemed to have been ruptured from the use of a stomach-pump. The patient was a man who had taken fifteen grains of opium with the object of committing suicide, and who had not been brought to hospital until three hours had elapsed. Under these circumstances the stomach was washed out somewhat hastily several times; each time it was remarked that only a portion of the water that had been injected returned. The patient died three hours after admission. At the necropsy it was found that the small curvature of the stomach had sustained several longitudinal ruptures, which, however, were confined to the mucous coat. The author was induced by this observation to make some experiments on dead bodies, which showed that an injection of three or four quarts of water into the stomach, under a pressure of about ten inches of water, produced similar injuries, and that these gradually increased, and ultimately became complete ruptures through the whole of the coats of the organ.—*Lancet.*

The Italian Medical Congress meets in Rome on October 19th, 20th and 21st.

The Woman's Medical College of the New York Infirmary has received a bequest of $5,000, for the benefit of its library, from the late Miss Sarah Hitchcock.

Physical Examination in a Bath.—The physical examination of patients, the subjects of disease of the abdominal organs, while in a bath, is advocated by Dr. Chapowski as greatly facilitating the exploration of these organs in doubtful cases. The advantages he claims for this method are: 1, That the tension of the abdominal muscles is reduced to almost nothing; 2, the patient is able to change from one position to another much more easily; and 3, that where the abdomen is extremely painful to the touch the pain is greatly lessened. The author practises this mode of examination in cases of movable kidney, tumors of or around the spleen, different abdominal growths, exploration of the rectum, etc., and recommends its adoption in cases where from any cause the ordinary method is unsatisfactory from a diagnostic point of view, as likely to lend considerable aid in arriving at a correct diagnosis.

The American Public Health Association will meet at Kansas City, October 20th, 21st, 22d, and 23d. Representatives from the entire United States are expected to be present, and from the treasure-houses of observations and investigations accumulated during the past year, contribute to the interest and profit of the occasion.

The Surgical Treatment of Obesity.—Last month Drs. Demars and Marx successfully began the surgical treatment of a patient affected with obesity. All drugs had been tried in vain, and the man had such an accumulation of fat over his abdomen that it formed a fold, hanging down and covering his thighs like an apron. Not only was walking greatly impeded, but painful erythema and intertrigo had developed to a dangerous extent. The surgeons made on the abdomen two horizontal incisions, one over the pubis and the other two inches below the navel; the two incisions were about nineteen inches long and six inches apart near the median line, and met at an acute angle on either of the patient's sides. The operators thus removed, adhering to the skin, a strip of fatty tissue, nearly five inches thick, weighing four pounds and a half. The wound healed rapidly and the improvement was marked.—Cor. *Therapeutic Gazette.*

Sterility in Woman.—Dr. Mary A. D. Jones writes: "Please allow a few corrections as to dates in the article on sterility that appeared in the MEDICAL RECORD for September 19th. The mistakes were made by my typewriter, and I, unfortunately, overlooked them. P. 323, first column, 'In 1890 Mrs. M——,' etc., should be 1882; p. 323, second column, 'In 1882 I restored,' etc., should be 1883; p. 324, second column, 'In 1865,' etc., should read 1876."

Society Reports.

THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Fourth Annual Meeting, held at the Hall of the Academy of Medicine, New York, September 17, 18, and 19, 1891.

THE Association was called to order by THE PRESIDENT, DR. ADAM HENRY WRIGHT, of Toronto, who, during some brief remarks, expressed confidence in the continued success of the Association.

The Address of Welcome was made, in the absence of Dr. Roosa, by DR. ROBERT T. MORRIS, and was responded to by DR. G. H. ROHÈ, of Baltimore.

Removal of the Kidney for Disease, with Cases.—DR. WILLIAM J. ASDALE, of Pittsburg, reported three cases of removal of the kidney. The first case was one of sarcomatous degeneration of the kidney, the nature of which could only be suspected for some months, nor determined even until the operation, although a tumor as large as a cocoa-nut could be made out on palpation, which was believed to be malignant. The chief early symptom was hemorrhage, shown by blood in the urine. Pain was absent. The lateral abdominal incision was made, but the operation was undertaken too late, secondary deposits had already taken place; the patient died on the twenty-first day. The case showed the importance of an early diagnosis and the probable futility of a late operation.

The second case suggested two queries: 1. Was fatal uræmia hastened and made certain by surgical interference during a septic condition? 2. Would the use of another anæsthetic (ether was used) have been followed by a different result?

The case was one of pyonephrosis, the patient coming under observation after marked sepsis had developed. The pus-sac, which included the *débris* of the right kidney, was removed and drainage established; the patient rallied; but little urine was subsequently excreted, and the patient died within fifty hours.

The third case was also one of pyonephrosis, in this case a mulberry stone being found in the pelvis of the highly diseased kidney. In this instance hemorrhage took place from the renal vein, and was one cause of death.

Discussion of the paper was postponed until after the reading of one by DR. R. T. MORRIS, of New York, on

Another Method of Palpation of the Kidney.—In the ordinary methods of palpating the kidney the mesentery and intestines were in the way. Israel's method, assisted by that of Gihon, enabled one to successfully make out the normal kidney in ordinary cases. In two or three cases in which the author had felt sure there was a movable kidney these two methods had failed to reveal it. It was in these cases that the advantages of a new method were shown. The patient, if the right kidney were to be examined, should lay upon the left side, the knees flexed upon the left in such a way that the abdominal contents sank toward the table. Thus a deep concavity was formed at the quadratus lumborum muscle. At this point the right kidney would be felt as the highest solid body resting in the abdominal cavity. In the other methods referred to, the colon and other structures intervened between the hand and kidney.

The participants in the discussion on these two papers were Drs. Vander Veer, Reed, Montgomery, Ross, Kellog, Carstens, and others. Those who expressed an opinion on a choice between ether and chloroform in operations on the kidneys gave the preference to the latter. They emphasized the importance of operating early where there was malignant disease, and regarding danger of hemorrhage from the renal vein.

DR. REED advised ligating the structures in which it lay *en masse* Some of the gentlemen had had occasion to practise the methods of palpating the kidney described by Dr. Morris, and had found it a valuable one.

DR. KELLOG had found, where he had been unable to palpate the kidney with the patient in the prone position, that the organ could usually be felt while she stood stooping forward, with the arms resting on a table. In this position the abdominal muscles relaxed, and the contents, including kidneys, descended, and could be readily palpated, especially on deep inspiration. He had found, in examination of over six hundred persons, descent of one or both kidneys in a large proportion. Some descent of the kidneys, and also of the abdominal organs in general, was apt to be present in cases of descent of the pelvic organs.

Intra-uterine Irrigation after Labor.—DR. LEWIS S. MCMURTRY, of Louisville, read the paper. He said his object was not to point out the method of making intra-uterine injections, nor to show their value in prophylaxis. The paper was a plea for the use of intra-uterine irrigation in the very early stage of sepsis, before the system had become saturated.

The golden moment when the injections might be most efficient was lost while administering hypodermic injections of morphine, under the idea that the woman was suffering from milk fever or puerperal malaria.

The views expressed in the paper were accepted and emphasized by Drs. Potter, Montgomery, Rohè, Kellog, Carson, Cushing, Wright, and Ross.

DRS. CARSON, CUSHING, and some others, referred to a class of cases in which intra-uterine irrigations must fail. They included some of rupture of a pus-tube during labor. Here, other means failing to control sepsis, laparotomy should be performed to discover the real origin of the trouble.

Is a Child Viable at Six and a Half Months?—DR. LLEWELLYN ELIOT, of Washington, gave the history in this paper of three cases of premature birth with viability of the children. From the date of the last menstruation to that of delivery the time in one case was six months and eleven days, in another, seven months and one day, in the third case, seven months and sixteen days. The last one died on the fourth day, the other two were still living.

From these cases and some others in literature which he briefly analyzed, the author drew the following conclusions: 1, The child, under peculiar circumstances of development, is viable at four months; 2, a child is viable at six and a half months; 3, the moral character of the parents has nothing to do with the birth of a premature child when considered from the stand-point of constitutional development; 4, obstetricians should strive to convince the laity of these facts.

DR. MARCY thought to him belonged the credit of saving the first child at about the sixth month in an incubator. The boy was then aged six or seven, and healthy.

DR. CARSTENS thought the age of a prematurely born child could only be guessed at. It could be stated positively only when two facts were known, namely, 1, the date of last menstruation; 2, only one connection subsequently.

The Application of Sacral Section as Applied to Gynecological Work.—DR. E. E. MONTGOMERY, of Philadelphia, read a paper on the advantages of section of the sacrum according to Krasky's method in gynecological work. He had resorted to it in two cases. In one of malignant disease of the rectum and uterus the rectum was resected and the uterus removed through the free opening made by section of the sacrum. The patient had been much relieved of her symptoms and was still living. In the other case the section of the rectum was made to give room for removal of a large uterus and diseased tubes and ovaries. This patient also recovered.

Resection of the bone made convalescence more tedious than where simple vaginal hysterectomy was performed, but the advantage gained by having a freer passage for the operation more than compensated for this

objection. The operation had not been performed often enough to determine the exact amount of danger which attended it. He recommended resort to section of the sacrum in gynecological practice only where the vagina did not afford room for removal of the pelvic tumor.

Dr. Reed, of Cincinnati, was inclined to think that where removal of the cancerous uterus was indicated, it could best be done by one of the established methods, without adding the dangers of section of the sacrum. Possibly colotomy would have answered in the case of cancer of the rectum, yet he thought the operation performed by the author would deserve encouragement should it give relief, insure voluntary control, and not enhance the mortality.

Dr. Marcy thought it advisable to perform preliminary colotomy in order to empty the gut of gaseous and fecal accumulations.

Dr. H. T. Hanks thought there were few conditions in which free enough access could not be gained by way of the vagina or laparotomy.

Drs. Wathen, Vander Veer, and Vance spoke somewhat conservatively of the procedure, at least aside from resection of the rectum for cancer.

How Shall We Proceed when Abdominal Tumors are Complicated by Pregnancy?—Dr. James F. W. Ross, of Toronto, read the paper. It took into consideration only cases in which pregnancy had been recognized, and only cases in which the tumor was ovarian or myomatous. About the only paper on the same subject yet published was one by Dr. Vander Veer. The author cited some cases of ovarian tumor in which one had to choose between the following modes of treatment: 1, Allow pregnancy to go to term, or until the products of conception were thrown off; 2, puncture the cyst from time to time until delivery; 3, do ovariotomy, leaving the pregnancy to go on or to abort; 4, induce premature labor; 5, remove uterus as well as tubes; 6, do Cæsarean section, and remove the tumor at the same time or subsequently.

Tapping had been practised with safety a number of times, but was not applicable in multilocular or colloid cysts. Where it was thought best to remove the tumor, and its nature made likely the necessity for much handling of the uterus or rendered its puncture liable, he would first produce abortion.

Abdominal hysterectomy should be resorted to only where Cæsarean section was inadmissible on the ground of danger of hemorrhage, etc.

Should urgent symptoms arise, an operation should be done without delay. In myomatous tumors the indications might be, 1, to induce premature labor; 2, do early myotomy or abdominal hysterectomy; 3, late abdominal hysterectomy or Cæsarean section; 4, tentative measures, such as pushing the tumor out of the way during labor, etc.

In one case of repeated abortions from uterine fibroids, the husband refusing to take measures against conception, he was obliged to remove the appendages. Where practical, the tumor should be removed through the vagina.

Craniotomy, version, and forceps should give way to modern Cæsarean section or abdominal hysterectomy, in cases of labor complicated by fibroid tumors of the uterus. Cæsarean section should only displace abdominal hysterectomy in cases in which the latter could not be carried out, owing to the intra-pelvic character of the growth.

Dr. Hanks thought there was no necessity for acting in haste with regard to fibroids complicating pregnancy. In cases of cysts in hospitals, the choice might be in favor of an operation, but he would dislike to remove a unilocular cyst in the country and leave the case in the hands of the local physician. It would be safer to tap.

Drs. Cameron, of Toronto, Vander Veer, Marcy, and Cushing, pointed out the dangers of puncturing ovarian cysts. The paper was discussed also by Drs. McMurtry, O'Brien, Carstens, and the author.

Removal of the Uterine Appendages, with Results.—Dr. Milo B. Ward, of Topeka, Kan., related his experience with removal of the uterine appendages in a part of the country where there was generally opposition to the procedure. This scepticism regarding the value of gynecological surgery in this direction, and fear of unsexing the woman, manifest more at present in the West than in the East, accounted for the fact that the operation in many instances was permitted only late in the course of the disease, and did not in every instance save life. It was principally with a view to counteract this prejudice among physicians, who were the cause also of its spread among the laity, that he put his experience on record.

Dr. Joseph Price, of Philadelphia, in discussing the paper, gave a warm condemnation of "gynecological tinkering" in that class of cases pointing plainly to the presence of pus in the pelvic cavity. The teaching that one should not operate until all other means had been exhausted was in a certain class of cases altogether wrong. As great an authority as Mr. Tait had repeated this advice, although he knew Mr. Tait wisely failed to follow his own advice in this respect.

This view expressed by Dr. Price was also that of Drs. Cushing, Mordecai, Price, and Reed. It was admitted, however, that the surgeon sometimes allowed his fears to overcome his judgment, and that to convince patient and friends of the necessity of an operation required previous self-conviction of that necessity.

A Consideration of Emmet's Last Operation for So-called Laceration of the Perineum, or Prolapsus of the Posterior Wall of the Vagina, or Loss of Fascial Support, or Muscular Relaxation from Tears.—Dr. Joseph Price, of Philadelphia, read this paper, which was intended to demonstrate the value and technique of Emmet's last operation, and the explanation which it offered of the lesion present.

The need of such a paper was made evident by the fact that few who had not seen Emmet operate could practise the operation or understood the description of it contained in Emmet's writings. In over six hundred cases the author had had no failures with this method so far as healing was concerned, or other untoward symptoms, and in few could it be recognized that any operation had been performed were it not for two or three outside stitches.

The various flap operations could not be compared with it, and from an anatomical stand-point certainly they would not withstand critical examination. The author impressed the importance of passing the sutures deeply. This was true of primary operations also. Puckering operations were worthless.

Drs. Wathen, of Louisville, and Ross, of Toronto, favored the splitting operation; while Drs. Hanks, Mordecai, Price, and the author adhered to Emmet's.

The Prevention of Secondary Peritoneal Adhesions by an Aristol Film.—Dr. Robert T. Morris, of New York, thought he had been able to demonstrate the efficiency of an aristol film in preventing secondary peritoneal adhesions by experiments on rabbits, and also by its use in one case of laparotomy on the human subject.

Annual Address of the President.—Dr. Adam H. Wright, in his address, dwelt chiefly on matters concerning the welfare of the Association. He reviewed the correspondence which had taken place between the officers of the Association and the Executive Committee of the Congress of American Physicians and Surgeons regarding admission into that body, and deprecated the unfair and undignified action of that committee, which he believed would not have met with the approval of the individual members of the Congress. It looked somewhat as though there was danger of an aristocracy in medicine arising in America worse than the worst form of aristocracy existing in Europe. He pointed to the British Medical Association as an ideal body, representing the most distinguished as well as the humblest in the

profession. It was desirable that the specialist should come in contact with the general practitioner, with the great body of medical men throughout the country, and this he thought could best be done in connection with the American Medical Association and the sister association in Canada.

A Case of Cholecystotomy and Cholelithotrity; Death from La Grippe on the Twenty-first Day.—Dr. William Wotkyns Seymour, of Troy, read the paper, giving the history of one case in detail, referring to another, and explaining his choice of cholecystotomy and sewing the gall-bladder to the parietes, leaving an open fistula. In his case, notwithstanding the patient contracted la grippe and got up a severe cough, the sutures held, no leakage took place into the abdominal cavity, there was no ecchymosis. Death was due entirely to la grippe with pulmonary complications. If it could be shown that the gall-stones could in some way be dissolved, sewing the gall bladder to the abdominal parietes might properly be resorted to as an intermediate step, but as yet he had found no successful dissolvent, and believed therefore that one should go on to extract or crush the stone immediately. Leaving a fistula also had the advantage of affording a way for further exploration should it prove necessary subsequently.

Dr. R. T. Morris thought the ideal method of dealing with gall stones was to cut down, expose and sew the gall bladder to the abdominal wound, wait for adhesions to form, then open the bladder, remove what stones it might contain, and inject some fluid directly upon the stones in the duct which would cause them to dissolve. Thus the dangers of bile coming in contact with the peritoneum, of crushing the stone, and of further cutting or manipulation would be avoided. He was then experimenting with solvents of gall-stones with a view to finding one which would not injure the mucous membrane.

The discussion was continued after the reading of a paper by Dr. A. Vander Veer, of Albany, on "Report of Cases of Cholecystotomy with Special Reference to the Treatment of Calculus Lodged in the Common Duct," which will appear in a future number of the Record.

Dr. Louis Pilcher felt that the conditions which would make it prudent to perform the ideal cholecystotomy would rarely arise. He believed that in the great majority of instances it would be best to leave the opening in the gall-bladder patent for a time after stitching it to the parietal wound. He had done this in two instances in which he had removed a large number of stones, the result in both being successful.

Dr. Kellog had operated in two instances for supposed gall-stones, the symptoms including local pain, tumor, and jaundice. Yet no stones were present. In one the hepatic symptoms had been produced by pressure and occlusion of the gall bladder by surrounding adhesions, and the tumor belt was one of cancer of the head of the pancreas. In the other he found at the operation rupture of the gall-bladder which had been distended and presented a tumor. Several quarts of bile were found free in the abdominal cavity. There was also cancer of the pancreas in this case. The patient died.

Dr. Marcy recited two or three cases in which he had removed gall stones by operation, already published. In one case one of the stones impacted in the duct weighed as much as two ounces, being the largest on record as far as he knew.

Asepsis in Intraperitoneal Surgery.—Dr. William H. Wathen, of Louisville, in this paper gave specific directions for cleansing and preparing the operating-room, towels, instruments, person of the patient, surgeon and assistants, etc. The directions given looked toward cleanliness, and avoidance of infection.

Femoral and Ventral Hernia in the Female.—Dr. H. O. Marcy read a paper on this subject. He thought the advantages which McBurney had expected to gain by his method in inguinal hernia could be realized more fully in cases of femoral hernia. The anatomy of the parts seemed to demonstrate this. The author took a more hopeful view of the cure of both femoral and ventral cases than surgeons generally. The suffering experienced by those with ventral hernia justified an attempt at radical cure. The danger he thought should be no greater, where there were no adhesions, than in exploratory laparotomy conducted with modern aseptic care. Having operated in over one hundred cases he had never seen in ventral hernia any ill result come from resection of even a considerable portion of omentum, and in them the curative effect of firm closure of the opening had been shown, together with the advantages of tendinous sutures. He thought it was time to dispense with the drainage-tube.

Dr. Carstens had operated on one case of ventral hernia by encircling the hernial opening with a kind of corkscrew needle carrying a silk suture. The sac was dissected out in the usual way, and cut off short, then the wound was sewed up with catgut. The result had been good.

Drs. Asdale and Hall were afraid to dispense with the drainage tube, always employing it when in doubt.

Dr. W. W. Potter related a case of strangulated ventral hernia seen by him fourteen years ago. Bile was literally pouring out of the patient's mouth. The apparent reason of this was seen at the operation, when a portion of the liver was found in the hernial sac. When the sac was cut the liver retracted into the abdominal cavity with force. The patient recovered, the vomiting of bile ceased.

Drs. Carstens, Morris, and others thought there would be fewer cases of ventral hernia if laparotomists would take the precaution to sew peritoneum to peritoneum, muscle to muscle, etc.; but Drs. Ross and Rosenbaum thought it had not been demonstrated that in the resulting scar each of these tissues stood distinct in union, or that hernia was less likely.

Some Moot Points in Ectopic Gestation.—Dr. X. O. Werder, of Pittsburg, read a paper in which he gave the histories of a few cases operated upon by him, demonstrating that not all cases of ectopic gestation with rupture of the sac into the free peritoneal cavity terminated fatally, and also that in ectopic gestation with rupture an operation was not always called for, as the patient would be likely to recover without it. He would wait until further symptoms arose. Where ectopic pregnancy was recognized before rupture he would advise an operation, for one could not say in advance what cases would be safely let alone.

Trendelenburg's Posture in Gynecology.—Dr. Florian Krug, of New York, read a paper citing the advantages, in operating on the abdomen, of placing the patient in a position with the pelvis elevated at an angle of about forty five degrees, called Trendelenburg's posture. All his friends who had practised the method had become at once warm advocates of it. With the patient in this posture the intestines and abdominal contents in general fell toward the diaphragm and allowed the uterus, tubes, pelvic tumors, etc., to come readily into view.

Demonstration of Trendelenburg's Chair.—Dr. Willy Meyer, of New York, demonstrated Trendelenburg's chair, and warmly advocated resort to the posture bearing Trendelenburg's name in operations on the pelvic organs.

Ectopic Pregnancy—When Shall we Operate?—Dr. Rufus B. Hall, of Cincinnati, reported in this paper three cases because of their bearing on some interesting points. The first two were cases of suppurative cysts and adherent ovaries, in which the women of wealthy families had suffered long because their physicians had not the courage to advise an early operation, or feared to complete an operation, because of the extent of adhesions present. Nothing but an operation would give relief in such cases, and the earlier it was resorted to the more likely would the patient recover.

The third case was one of suppurative cyst in the pelvis,

which an operator had not removed because of the extent of the intestinal adhesions. After the patient was ready to enter the grave he obtained consent to operate, and with great difficulty overcame the intestinal adhesions so far as would enable him to excise the cyst-sac. The patient, however, died soon of intestinal obstruction. This case also illustrated the danger of delay, and of the necessity for going on and removing any tumor, unless malignant, after having entered the peritoneum, no matter what might be the adhesions or other difficulties met with.

Dr. Ross had met with two cases of pelvic abscess which he had drained through a laparotomy wound, and had been unable to get the tract of the drainage-tube to heal subsequently. In one he operated again, but was unable to overcome the firm intestinal adhesions. The patient died subsequently from chronic suppuration. It would seem, therefore, not always possible to go on and complete the operation.

Observations on the Surgical Management of Pelvic Abscess.—Dr. Charles A. L. Reed, of Cincinnati, gave a verbal abstract of a paper on this subject. The idea was prevalent, he said, that accumulations within the pelvis were restricted almost exclusively to the Fallopian tubes. This was one of the reactions from the old time pathology, which taught that everything was cellulitis. While he believed most cases of pus-collection in the pelvis occurred in the tubes, yet he was convinced the pus sometimes formed primarily in the cellular tissue. Such cases were the result of the accidents of labor. His paper contained histories of two cases in which the abscess had no connection with the tubes or ovaries, was extra peritoneal, and which was treated by an inguinal incision, and opening and draining extra-peritoneally, as one would incise in laparo-electrotomy, the finger within directing the knife. The appendages were healthy.

Drs. Rosenbaum, Carstens, and Mundé cited some personal experience with primary pelvic cellulitis.

Dr. Mundé said he could not agree with those who thought pelvic abscess could not occur except in the tube primarily, or that it did not sometimes occur primarily in the cellular tissue of the pelvis. Where plastic lymph formed a tumor which was immovable, it was probably extra-peritoneal; where movable, with mobility of the uterus up and down, it was probably intra-peritoneal. He was satisfied he had seen cases of collection of pus or of blood extra-peritoneal, and he thought to attack the accumulation extra peritoneally, or in the manner recommended by the author, was to be commended. How to prevent or cure sinuses, resulting perhaps from treatment of such cases of pelvic abscess, was something which he would gladly be taught.

Dr. McMurtry had never seen a case of true pelvic abscess; the pathological changes were such as to make it very difficult to demonstrate such a condition satisfactorily, even should it occur.

Dr. Joseph Price had not seen a case of pelvic abscess which was not primarily and secondarily tubal and ovarian. The ovarian affection was, in the vast majority of cases, secondary to the tubal disease. And as to pelvic hæmatocele, in operating in more than fifty cases of ectopic pregnancy, he had not yet found a case of so-called pelvic hæmatocele. In cases of so-called pelvic abscess and hæmatocele, a description had not been given of the exact condition of the tubes and ovaries, but it was suggestive that usually it was stated everything was matted together. Leaving the tubes supposed to be healthy might perhaps account for the cases of remaining sinus which Dr. Mundé had found a trouble.

Dr. Joseph Hoffman, of Philadelphia, took similar ground, and said that treatment by puncture through the vagina was, in almost every case, a losing game.

Dr. Egbert H. Grandin, of New York, had seen at least eight cases, probably twelve, of pelvic abscess, the origin of which, whether in the tubes or elsewhere, he did not claim to know, but he did know that they were cured by treatment per vaginam, without removal of the uterine appendages. In these cases the treatment from this direction was not a "losing game," since none of his patients died, but on the contrary all recovered symptomatically. The abscess was punctured, then the opening dilated by tearing, pus evacuated, partitions broken up by the fingers, hot water injected, and lately he injected peroxide of hydrogen, which destroyed the pyogenic membrane. Then drain. These patients, it might be remarked, had not been subjected to the risks of shock attending a laparotomy.

Dr. Reed said the terms pus-tubes and pelvic abscess should not be used interchangeably, as they denoted different conditions. He had seen only three cases of pelvic abscess, but felt sure of the nature of these.

A Plea for Early Hysterectomy and Puerperal Hysterectomy.—Dr. Joseph Price, of Philadelphia, read the paper, which claimed to be no more than a reasonable demand for early resort to exact surgery in the class of cases referred to in the title of the paper, which left to themselves went on from bad to worse. Cases were related in which tumors of different forms complicating pregnancy had demanded hysterectomy. If one would succeed, he said, he should treat every case as if it was the worst possible one, with much care and judgment, with no flurry for stage effects.

Dr. George Jackson Fisher had removed an ovarian tumor weighing more than the patient, over thirty years ago, and on that occasion he practised what he ever strongly advocated, strict cleanliness. Operate early, observe cleanliness, practise simple methods to attain success. He stated further that in reflecting on the life of our American physicians, the great mistake which they made was in giving themselves no diversion. Many lives had thus been cut short in the midst of their usefulness.

Further remarks were made by Drs. Cushing and Hoffmann, partly derogatory to electricity in the treatment of pelvic tumors.

Dr. Price repeated that while cleanliness was all important, it was difficult to attain. He loved a dude—but for his cleanliness only. McDowell was a dude in this respect. It was expecting too much of medical students to go forth and be cleanly in their practice after spending three years in the midst of dirt at medical colleges. He could pick out the physicians in his city who had no cases of puerperal fever from their personal appearance. Then, too much importance could not be placed upon simplicity, few instruments, etc.

Dr. Albert Vander Veer, of Albany, was elected president for the ensuing year.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, September 27, 1891.

O. D. Douglas, M.D., President, in the Chair.

Amendments to the By-Laws.—The Comitia Minora recommended in its report several changes in the by-laws, to be acted upon at the next meeting. It was recommended that there be a second Vice-President as well as first. The Comitia did not approve of the proposed by-law recommended by Dr. A. S. Hunter, namely, "it shall be the duty of the Committee on Hygiene to keep itself advised at all times concerning the condition of the public health, and on the outbreak of grave, infectious, or epidemic diseases to communicate to the public through the secular press such information and counsel as in its judgment the occasion may seem to demand."

Nominations were made as follows: For *President*, Drs. O. B. Douglas, L. Bolton Bangs, and George H. Fox; *Vice-President*, Drs. Seneca D. Powell, G. H. Fox, and C. L. Dana; *Secretary*, Dr. Charles H. Avery; *Assistant Secretary*, Dr. W. E. Bullard; *Treasurer*, Drs. John S. Warren, and Henry E. Crampton; *Censors* (five to be elected), Drs. Landon Carter Gray, W. M. McLaury,

Samuel Lloyd, W. H. Bates, A. F. Currier, C. C. Rice, S. O. Vanderpoel, G. E. Abbott, A. S. Hunter, H. E. Crampton, Richard Van Santvoord, W. C. Phillips, and Egbert H. Grandin.

The Surgical Treatment of Trachoma, with Report of Cases Treated by Grattage.—Dr. John E. Weeks read the paper. Trachoma, commonly called granular lids, was a most annoying disease to the patient, and one very difficult to treat without surgical measures. While non-operative treatment, by the use of astringents, etc., might materially shorten the duration of the disease in selected cases, yet the inflammatory condition which it excited was often very annoying to the patient and was not without danger. Sloughing of the cornea sometimes occurred.

With operative treatment, as recently developed, the prospects were more encouraging. Some of the methods would enable us to stop the progress of the disease, and even cure it without danger to vision, and without deformity of the lids.

For the sake of convenience he divided trachoma into three stages: 1, The period of formation of granules and follicles, absence of cicatricial contraction; 2, the stage when the granules had coalesced, vascular pannus with superficial keratitis had developed, evidence of cicatricial tissue in the conjunctiva, the tarsus somewhat swollen and thickened, etc.; 3, the trachoma tissue giving place to cicatricial tissue, sometimes entropion or complete stenosis, sometimes total blindness. His paper had to do with the first and second stages almost exclusively.

The surgical methods were considered in the following order: 1, Partial removal by excision; 2, partial removal by expression; 3, destruction of the trachoma tissue by scarification and electrolysis; 4, squeezing and brushing; 5, destruction of the granules by the galvano-cautery; 6, scarification and introduction of a strong germicide. Excellent results had been claimed for the first method, excision of the granules by the scissors, etc., but objections to it were that it removed only a portion of the diseased tissue; a portion of the conjunctiva was removed, which the patient, suffering long from the disease, could ill afford to lose, and it sometimes produced permanent ptosis. The hemorrhage was considerable. At present the advocates of the method are not numerous.

As to the second method—partial removal by expression—it had become quite generally employed, and was specially useful in the first stage. In practising expression the lids were everted and the granules pressed out by means of a forceps, of which those of Dr. Knapp, Dr. Noyes, and Dr. Gruening were most in use. Some applied sulphate of copper or astringents afterward. The conjunctiva remained red for some time, but this gradually subsided, and recovery took place with little trachomatous tissue remaining, A little shrinking took place. In select cases the method was very efficacious. Indeed, if it were applicable to all cases of trachoma it would leave nothing to be desired. But it was useless in older cases, where granules had coalesced and formed hard masses.

The third method, that by electrolysis, was used much by Johnson, of London, but it had the fault of not destroying all the trachomatous tissue, and of necessitating an expensive apparatus which might readily get out of order.

The method which the author wished to speak of in particular was partial removal by scarifying, and then rubbing in with a brush a strong germicide. This method has been used considerably in Paris. Its introduction was only recent. General anæsthesia was required; cocaine had sometimes been employed, but it failed to control pain. It might be necessary to do canthoplasty or canthotomy. By use of forceps and knife the conjunctival surface was scarified, the scarifications running parallel to the lids, close together, united by a few transverse incisions, the depth of the incision depending on the depth of the trachomatous tissue. The surface was then scrubbed thoroughly with a tooth-brush, carrying 1 to 500 bichloride solution. The two lids were then freed from clot, a bandage and antiseptic dressing applied. The bandage was removed at the end of twenty-four hours, and the surface rubbed with absorbent cotton dipped in 1 to 5,000 solution of bichloride. The same process was repeated a few times subsequently.

The author said that until within a few months his surgical experience had been confined to expression, but recently he had operated by grattage in over twenty cases, with much satisfaction. It was better suited to cases in the second stage than was expression. Each case required after-treatment according to its own merits. Where the scarifying process had left any cicatricial tissue, it was less, he thought, than would have resulted from the natural course of the disease, or as modified by ordinary treatment. The patients suffered no photophobia afterward, the bichloride caused no pain, the conjunctival surface was smooth and normal in appearance, and a fibrinous membrane formed which disappeared spontaneously. One of the striking results was the immediate cessation of discharge of any kind from the conjunctiva, converting the case from one of contagion into one of cleanliness. In a considerable number of the cases the conjunctiva did not become smooth until some time had elapsed.

Dr. Herman Knapp said the methods spoken of in the paper were old, but had not been thoroughly applied until recently. Grattage and scarification were ancient, but the rubbing in of a germicide was new. He had not himself performed grattage, and must confess that, according to the descriptions of it, the operation was to him repulsive. When thoroughly performed, he had read, the conjunctiva looked like velvet, with shreds hanging or projecting in every direction. It seemed to him there was more laceration of tissue than was necessary. The method which Dr. Knapp employed was expression, which he had resorted to in fifty-nine cases, in only one of which he had heard of a relapse taking place, one mentioned in the paper. If an antiseptic were used afterward, of course it might have a good influence, but he thought the mechanical action of expression by the roller forceps, and the tendency of nature to rid itself of the exudations, were the basis of the cure. Where the infiltrated tissue was too thick to permit of expression scarification might be necessary.

Dr. Emil Gruening had known of treatment by expression when a student, and had practised it considerably for five years, but until a later date he had found recurrence take place in a number of cases. The cure had remained permanent since he had adopted the custom of applying sulphate of copper after expressing the granules with his forceps, the sulphate of copper owing some of its efficiency doubtless to its germicidal influence. But in the second stage of trachoma, where cicatrices had formed, he thought expression was insufficient, and he meant to try grattage.

Dr. David Webster had of recent years used expression a good deal at the Manhattan Eye and Ear Hospital, more especially in cases of trachoma described by Dr. Knapp as having a frog-spawn elevation without much secretion. His results had been very good. The operation must be performed thoroughly in order to secure success. He made it an object to squeeze out the contents of every granulation. Regarding the value of sulphate of copper applied afterward, he had requested his assistant to apply it to one eye in a given case, leaving the other untreated by this agent. The latter healed much more rapidly and with less reaction, and the final result was as good. He meant to try grattage.

Dr. Mittendorf said that the removal of masses of conjunctival tissue, canthoplasty, and canthotomy were sometimes attended by a certain degree of deformity, which in the case of girls might leave a disfigurement to be regretted for life. The operation of scarifying the conjunctival tissue was comparatively new, and we could

not yet say that there might not be resulting deformity. He had not, to his knowledge, left an entropion after his mode of treatment. Where the granulations were to be removed, it should be done by the method which involved the least injury to the tissues.

Dr. Martin spoke favorably of grattage, which he had witnessed in Paris; said no cicatrices were left at all, or they were thin, pliable ones, not as severe as those remaining after the long use of bluestone.

Dr. Harvey had assisted Dr. Weeks, and had himself performed grattage in sixteen cases, in only one there being a failure, due to the excessive depth of the scarifications and their wrong direction.

Dr. Weeks closed the discussion.

The Application of Antiseptics in Ophthalmic and Aural Surgery.—Dr. M. L. Foster opened his paper on this subject by quoting the definition of antiseptic and aseptic given by recent dictionaries, with the object of showing that those who now spoke sneeringly of antiseptics, while professing to believe in aseptics, failed to comprehend the meaning of the two terms, and in using inefficent germicides, or germicides in insufficient quantity, demonstrated want of confidence in their own theory and inability to establish asepsis in their surgical work. Antisepsis did not necessarily mean the use of corrosive sublimate or other powerful germicides. Experience had proven that the principle of antiseptics was correct. A strong germicide was not safe in the healthy eye, and while in ophthalmological surgery the addition of a weak germicidal solution might not be necessary, the secretions of the eye themselves keeping it in an aseptic condition as a rule, yet the addition of such a solution would contribute further to the safety of the eye, and should not be needlessly omitted. In the ear there was greater need for antiseptics, for here most operations were performed on tissues already septic, and incapable of being rendered proof against infection preparatory to the operation. The object was to remove dead tissue, establish free drainage, retard suppuration, afford protection, and carry out in a general way the treatment applicable to bone disease elsewhere.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, April 8, 1891.

H. M. Biggs, M.D., President, in the Chair.

Dr. Eugene Hodenpyl presented microscopical specimens taken from a tumor which had been removed from the upper lip of a man, fifty years of age. Five years ago, a pimple had appeared at the site of the present tumor, and soon after its removal, two years later, the present growth appeared. It was about four centimetres in its lateral diameter, and three centimetres antero-posteriorly; it was lobular, and quite hard. The microscopical appearances were quite remarkable, as different portions of the tumor presented respectively, myxomatous, cartilaginous, glandular, and sarcomatous tissue. Such a tumor in this region he considered to be exceedingly rare. It had apparently originated in the sweat-ducts. The connective tissue was principally derived from the fibrous capsule. The existence of typical cartilage was very interesting. and not very common, although he had recently had a specimen from the pia mater of the spinal cord, in which such masses were found.

Dr. T. M. Prudden said, that hand in hand with the proliferation of the glandular elements, it was not unusual to have simple hyperplasia of fibrous tissue, and from this there might be a development of cartilaginous tissue, a metaplasia. The specimen presented showed just such a tissue as one might expect to develop in this way.

As to the question whether it is to be classed as a sarcoma, he could only say that such tumors are on the border line, and myxomatous tissue is so closely allied to certain varieties of sarcomatous tissue that when hyperplasia is added to this the difficulty of differentiating it from sarcoma is rendered still greater.

A Case of Infantile Spastic Hemiplegia.—Dr. E. Fisher presented the brain from such a case. The patient, who was a woman, thirty-two years of age at the time of her death, gave a history of having been paralyzed since she was about two years of age. On examination, the usual condition of the cerebral hemiplegia of childhood was found, the paralysis in this case being on the right side of the body, more or less marked in the face, and accompanied in the extremities by a spastic condition of the muscles, and by exaggerated reflexes. There were some athetoid movements, which, however, were not especially noticeable except upon the patient's attempting to do something with the hands. She also exhibited, as many of these patients do, marked mental weakness.

The specimen showed the left hemisphere to be very much atrophied, especially all that portion posterior to the fissure of Rolando, the left ventricle was dilated, and portions of the cortex had almost entirely disappeared. There was also marked atrophy of the opposite lobe of the cerebellum. The degeneration following upon this atrophy could be traced with the naked eye through the crus and pons into the cord, where there was marked degeneration of the opposite half of the cord, the motor tract.

The causes usually given for this infantile spastic hemiplegia of cerebral origin are meningeal hemorrhage and encephalitis. The former commonly occurs as a result of cerebral pressure during a tedious labor or, less frequently, from instrumental delivery, while the latter necessarily occurs after birth, and most commonly during the second year, either idiopathically or as a sequela of one of the exanthemata. It was almost impossible at so remote a period after the occurrence of the lesion, to say what was the origin of the condition presented in his case, but he was of the opinion that there had either been a meningeal hemorrhage, or an occlusion of the middle and posterior cerebral arteries.

In answer to a question from Dr. Armstrong, as to whether the configuration of the skull indicated the configuration of the brain, Dr. Fisher replied, that this was one of twenty cases in which cranial measurements had been taken, and in this case it had been found that on the side corresponding to the cerebral lesion the skull was decidedly smaller; it was not microcephalic, but only asymmetrical.

Dr. S. T. Armstrong thought that if a meningeal hemorrhage had occurred, some trace of it, such as a deposit or a discoloration of the meninges would have been left; and again, if the condition were due primarily to occlusion of the blood-vessels, he thought, even the existence of an extensive collateral circulation ought not to have entirely obliterated the original trunks.

The asymmetry of the skull suggested the possibility of early ossification as a cause of the atrophied condition of the hemisphere, and also suggested the possibility that an early operation might have resulted in a better development of the brain.

The President said that, as a rule, he thought a surface hemorrhage would leave some pigmentation of the meninges, but that after so long a period it was likely that even if important vessels had been occluded, the small vessels would have become so enlarged and the original ones so atrophied that it would be impossible to determine the original cause of the trouble.

Dr. Fisher said that he did not think in this case, the asymmetry of the skull was the cause of the atrophy, but rather was consequent upon the cerebral lesion.

The President presented the brain from an Irish woman, twenty-six years of age, who had been admitted to the hospital on February 14, 1891. Her family history was good, she had been in good health previously, and denied having had syphilis. Just previous to her admission, being a prostitute, she had had sexual intercourse, and a few

moments after this she was seized with intense pain in the head, the left arm and leg became weak, and she fell. At the same time her sight was affected, and sensation was lost on the left side, but she did not become unconscious. On admission, it was found that the left side of the face and the left arm and leg were paretic, that the head constantly rotated to the right, that sensation was abolished on the left side, and there was left hemiopia. For the first two weeks following her admission, she was given large doses of iodide of potassium, and there was apparently some improvement in motion and sensation and in her general condition, but she was noisy, and at times delirious. After this, she grew steadily worse; the pulse was rapid, the temperature rather high, and she became stupid, so that it was necessary to resort to rectal alimentation, and to drawing the urine. Shortly before death, her temperature reached 106.8° F., and her respirations were 97.

At the autopsy, the thoracic and abdominal organs showed nothing of importance. On the posterior branch of the right middle cerebral artery was a tumor about the size of a pea, completely surrounding this vessel. The temporo-sphenoidal lobe was very much softened internally, and when a small opening was made, there was a discharge of blood-stained sero-purulent matter, and an examination of this fluid, showed that it contained a great many white corpuscles, disintegrated brain matter, and blood-pigment, both granular and crystalline. On section, the brain showed a cavity extending from the apex of the tempero-sphenoidal lobe nearly to the occipital lobe, and the area of softening extending into the occipital lobe and forward to the frontal lobe. There had evidently been an old hemorrhage, for after section, and while the specimen was still fresh, pigmentation could be clearly seen around the margins of this cavity. There had also been a recent hemorrhage into the cavity. Although the growth had not yet been examined microscopically, Dr. Biggs thought the history left but little doubt that it was a gumma.

Of course, the growth must have existed for some time, and the sudden onset of the symptoms in this case was best explained on the supposition that there was a sudden shutting off of the blood-supply, consequent upon the excitement attendant upon the sexual intercourse. He was of the opinion that thrombosis did occur in this way, for he knew of two instances in which thrombosis of the sinuses followed directly upon very unusual excitement, and where there was apparently no other cause. In one of these cases, the thrombosis occurred in the straight sinus. This was only the second time in which he had seen thrombosis of this sinus. In this case, it was clear from the history that the thrombosis was directly due to very severe mental disturbance.

Stated Meeting, April 22, 1891.

H. M. BIGGS, M.D., PRESIDENT IN THE CHAIR.

The Anatomical Changes of Cured Phthisis.—DR. H. P. LOOMIS presented the lungs from four cases to illustrate these changes. The frequent presence of these lesions in post mortem examinations gave ground for the belief that many more persons recover from tuberculosis than would appear from clinical observations. Out of 524 autopsies at Bellevue Hospital on persons dying of non-tubercular diseases, 43, or eight per cent. presented in the lungs the changes which he considered characteristic of healed tuberculosis. Dr. Austin Flint had stated that out of 640 cases of phthisis 43, or 6.5 per cent., recovered, and Dr. Williams, of London. reported that out of 1,000 cases 4.6 per cent. were cured. The question of the existence of tubercle bacilli in these apparently healed areas could only be satisfactorily demonstrated by inoculation experiments, and in the few experiments of this kind which he had made these bacilli were not found.

The first specimen showed at the apex of the right lung a dense, circumscribed, circular nodule, three-quarters of an inch in diameter, surrounded by laminated fibrous deposits, and presenting the appearance of a solid cicatrix formed of cartilage. The nodule was situated in the substance of the upper lobe, but connected with the puckered and depressed pleura by easily recognized bands of new connective tissue. The lungs were normal.

In the second specimen, contracted and disintegrated areas were scattered throughout the upper lobe, in which no remnant of pulmonary tissue could be found. The remaining portions of the lungs were normal. Broad white septa of dense fibrous tissue traversed this upper lobe in every direction, the bronchi were dilated, and their walls enormously thickened, and a small contracted cavity with walls one-eighth of an inch thick was found near the apex.

The third specimen showed a healed cavity two inches in diameter in the upper lobe. It was closed in on all sides, and lined by a dense fibro-cartilaginous false membrane, which, in places, was one quarter of an inch in thickness. No bronchus could be found opening into the cavity. The walls were trabeculated, and vegetations projected from them, while in the most dependent portions of the cavity, some grumous, cheesy material had collected. The surrounding pulmonary tissue was indurated and infiltrated with black pigment, but the other portions of both lungs were normal.

In the fourth specimen the upper lobe, which was normal in other respects, presented a cavity one and a-half inch in diameter, having perfectly smooth walls. There was but little connective tissue surrounding this, and a microscopical examination revealed the interesting fact that the cavity was lined with ciliated epithelium, and that it was therefore a dilated bronchus, and not the result of tubercular destruction of tissue. Dr. Loomis said that this was only the second specimen of the kind which he had seen.

THE PRESIDENT said there was no question about these specimens being tubercular, and he believed with Dr. Loomis that they were of very frequent occurrence, but he would place the percentage considerably higher; for in at least twenty per cent. of the cases dying from non-tubercular disease in the charity hospitals of this city he found these old cheesy, calcareous nodules in the upper lobes of the lungs.

DR. T. M. PRUDDEN also thought these lesions were very frequently met with. Their exact significance could be best determined by a comparison of such post-mortem statistics with accurate clinical records. He did not think it was hardly desirable to speak of all such lesions as those of "cured phthisis," for cases in which living tubercle bacilli were found would be more accurately described by calling them cases of tuberculosis in abeyance.

First Aid to the Injured.—We have in this city and elsewhere in the country a system of instruction, described as "First Aid to the Injured." This instruction consists of a series of five lectures, followed by an examination conducted upon the basis of a text-book, with which the pupils are provided at the commencement of the course. Attendance upon these lectures is as a rule free, and they are delivered before various clubs—working-girls' clubs, young men's associations, policemen's classes, and classes otherwise made up. The association which supplies the lectures is supported by contributions, applied to the office expenses and various incidentals, the physician's work in giving the instruction being gratuitous. We have had a number of gratifying reports from the pupils who have taken these courses. Instead of a panic in the presence of injuries or convulsions, even young girls promptly apply the simple remedies, or do what they have been directed to do for the comfort of the patient. The intelligence and practical assistance rendered by policemen upon occasions of street injury has been publicly commented upon.—*The Nightingale.*

Correspondence.

CATS AND THE PROPHYLAXIS OF RINGWORM AND FAVUS.

To the Editor of the Medical Record.

Sir: Though it is a fact universally acknowledged that ringworm and favus are communicated to man by some domestic animals, especially cats, prophylactic measures in this direction are somewhat neglected in our hospitals and public institutions. Since my attention has been attracted to this interesting subject (see my paper, "The Prophylaxis of Ringworm," *New York Medical Journal*, July 13, 1889), I have had occasion to repeatedly trace individual cases, as well as small epidemics, of ringworm and favus to their original source—a cat. Two cases of favus, contracted from a cat, have lately come under my observation, and prompt me to sound a warning and urge a stricter prophylaxis.

The cat which had given the disease to two American boys, brothers, two and one year old respectively, suffered from favus of the ear. The disease had destroyed the pointed end of the right ear, and the resulting sore was surrounded by a crown-shaped mass of yellow scutula half an inch thick. Both boys had typical spots of favus on the right thigh and in the middle of the abdomen, respectively.

Favus is by no means solely an imported disease, as is often stated erroneously. It is a disease peculiar to mice, which in turn communicate it to cats.

Some of our hospitals abound with cats, which, as the children's pets, enjoy considerable freedom, and not infrequently, I think, start an epidemic in wards far removed from any other source of contagion.

Let, therefore, the number of cats be limited in public institutions and hospitals; put parents and nurses on their guard as to the possibility of danger arising through the presence of cats, and urge them to be quick in removing all animals with suspicious symptoms. These prophylactic measures, if properly enforced, will protect our children against ringworm and favus, both such obstinate and disgusting diseases.

Fred. J. Leviseur, M.D.

687 Lexington Avenue.

PERFUMERY IN "HAY FEVER."

To the Editor of the Medical Record.

Sir: At this season of the year there are many persons who are sorely afflicted with hay fever. Such persons naturally wish to avoid anything and everything which may have a prejudicial effect upon them, for, at its best, life is at a discount during "sneezing time." Being a sufferer myself, I know whereof I speak. Now for the point I wish to make: Perfumery used on the handkerchief is about as good a sneeze-producer as can be found. It surpasses ragweed, golden-rod, and everything else I know of. The only advantage it has is its pleasant odor, but that don't compensate for the twenty or thirty sneezes it induces. Beware of perfumery, if you have hay fever, till your nose shall have ceased to respond so energetically to excitants of various sorts.

Joseph William Stickler, M.D.

Orange, N. J.

COLIC NOT NECESSARILY A SYMPTOM IN GALL STONES.

To the Editor of the Medical Record.

Sir: The case of "Colic not a Necessary Symptom in Gall-stones," reported in the Record of September 12, 1891, page 302, from the clinic of Mr. Lawson Tait, calls to my mind a very unique case that came to my notice some time since, and was similar in that there were a great many gall-stones, without colic.

This man, Dr. C. B——, was admitted to the hospital of the Michigan State Prison, January 30, 1890, supposed to have pulmonary phthisis. He was put upon quinine, iron, cod-liver oil, and whiskey. He did not improve, and, February 26, 1890, while lying on the bed talking to an attendant, turned over and died without a struggle. Twelve hours after death I saw him for the first time, and made an autopsy. The body was much emaciated. Marks on the lower part of abdomen and penis, supposed to be scars of old venereal sores. Left foot and leg badly swollen. Both lungs were completely filled with tuberculous deposits and large abscesses filled with thick, milky pus, and were firmly adherent to the thorax on both sides. The heart was slightly enlarged, and in the apex was an abscess one inch in length, containing two drachms of milky pus. The liver was much enlarged, and the capsule was easily stripped off. The gall-bladder was thickened, and contained three hundred and fifty-three gall-stones, from the size of a hemp-seed to that of a large acorn, and weighing in all seven hundred grains. One stone, weighing ten grains, was packed so firmly into the cystic duct that the duct was torn to get it out. The other organs were normal. He had had no pain in abdomen, and no symptom that led the attending physician to suspect any trouble with the liver, gall-bladder, or ducts.

Respectfully,

W. W. Lathrop, M.D.,
Physician of Michigan State Prison.

THE HAGEDORN NEEDLE.

To the Editor of the Medical Record.

Sir: In a letter on "How to Keep Needles from Rusting" (by immersion in alcohol), published several weeks ago in the *New York Medical Journal*, I mentioned the "self-threading" Hagedorn needles as being, in my judgment, best for general use, and a decided comfort, as they can easily be threaded even with fingers sticky from blood, and in a very bad light.

I infer from several inquiries that this style of needle is not generally known in New York. In fact, a large surgical-supply house in this city said that my order of some six months ago was the first they had ever received. Nevertheless, this kind has been used in Germany several years. There they are called "Nähnadeln mit federndem Ohr."

The accompanying sketch (Fig. 1) will give the idea. The thread is snapped into the posterior of the two eyes, as the steel here is not continuous, although the two sides touch. When properly made the eye does not cut the thread. The anterior eye is only for use, threading it as an ordinary needle, in case the other eye accidentally breaks. It may be allowable in this connection to repeat the explanation as to why the Hagedorn is preferable to the surgical needle still in common use.

Fig. I.

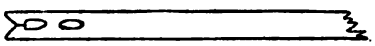
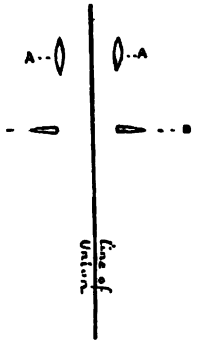


Fig. II.



A, in Fig. 2, is the needle-hole made by the latter kind; *B* is the Hagedorn needle-hole, the long axis of which is at right angles with the line of union—like the button-holes along the edge of a coat.

It is evident that when the suture is tightened *A* will be made to gape thereby, whereas *B* will be closed, hence tending to check bleeding from the stitch-holes, and making the subsequent scar a smaller one.

Very respectfully,

Robert H. M. Dawbarn, M.D.

345 West Fifty-Sixth Street.

PROFESSOR LEYDEN, OF BERLIN.

To the Editor of the Medical Record.

Sir: On my return from Berlin I notice in a letter from me, while abroad, mention is made of my friend Professor Leyden as being interested in the study of influenza, which is quite true; but unfortunately, by an almost inexplicable misprint, I am quoted as saying that he is a monomaniac on the subject. Of course anyone who knows his thorough methods would consider this to be impossible, even by a strain of pleasantry in the license of a friendly letter. Trusting that you will disavow any intention on my part of being discourteous to the distinguished counsellor,

I am, yours truly,

Louis Fischer, M.D.

40 Rivington Street.

HOW DOES ETHER KILL?

To the Editor of the Medical Record.

Sir: In the Record of September 19th you say that there was a death from ether in your city September 9th, although before administering the ether a careful examination had failed to reveal any disease of the heart. Quite likely. The very best heart in the world will cease to beat if the lungs fail to perform their functions, and therefore only poisonous blood is brought to the circulatory nerve-centres. And as is generally known (or as should be generally known), ether paralyzes first the respiratory nerve-centre, and when respiration ceases the heart continues to beat for as long a time as the blood is not too impure to produce the proper stimulus in the circulatory centre; but when the blood, from lack of aeration, becomes too impure, the heart ceases to beat, whether sound or unsound, and life ceases also. If this fact were more constantly borne in mind by persons administering ether, fewer deaths would occur to report.

Respectfully,

S. L Kilmer, M.D.

South Bend, Ind.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 13, 1891, to October 3, 1891.

Vollume, Edward P., Colonel and Chief Medical Purveyor. Retired from active service. S. O. 211, A. G. O., Washington, D. C., September 11, 1891.

Crampton, Louis W., Assistant Surgeon. Relieved from duty at Fort Sheridan, Ill., and ordered for duty at Fort Townsend, Wash., relieving Assistant Surgeon James C. Worthington.

Worthington, James C., Assistant Surgeon. Being relieved, is ordered to Fort Thomas, Ky., for duty at that station, relieving Assistant Surgeon George M. Wells.

Wells, George M., Assistant Surgeon. On being relieved from temporary duty at Fort Thomas, Ky., is ordered to San Carlos, Ariz., for duty.

Kean, Jefferson R., Assistant Surgeon. Granted leave of absence for three months on surgeon's certificate of disability.

Wells, George M., Assistant Surgeon. Relieved from duty at Columbus Barracks, O., and ordered to Fort Thomas, Ky., for temporary duty, relieving Assistant Surgeon Henry I. Raymond.

Raymond, Henry I., Assistant Surgeon. On being relieved from duty, to report to the commanding officer, Fort Robinson, Neb., for duty at that station.

DeWitt, Theodore F., Assistant Surgeon. Granted leave of absence for six months on Surgeon's certificate of disability.

Ewing, Charles B., Assistant Surgeon. Will continue on duty as Attending Surgeon and Examiner of Recruits at St. Louis, Mo.

Crosby, William D., Assistant Surgeon. Relieved from duty at Fort Pembina, N. D., and ordered to Fort Missoula, Mont., for duty.

Reed, Walter, Captain and Assistant Surgeon. Relieved from duty as Attending Surgeon and Examiner of Recruits at Baltimore, Md., and ordered to Fort Snelling, Minn., upon completion of his duties as member of Army Medical Board.

Kimball, James P., Surgeon. Relieved from duty at Fort Supply, I. T., and ordered to Fort Clark, Tex.

Patzki, Julius, Surgeon. Relieved from duty at Fort Huachuca, A. T., on expiration of present sick leave, and ordered to Fort Supply, I. T.

Official List of Changes in the Medical Corps of the United States Navy for the week ending October 3, 1891.

Hoehling, A. A., Medical Inspector. Ordered as member of Medical Examining Board.

Harmon, G. E. H., Surgeon. Ordered to the Yorktown.

Boyd, John C., Surgeon. Detached from the Yorktown, and granted leave of absence.

DuBois, F. L., Medical Director. Detached from Navy Yard, Portsmouth, N. H., and to wait orders.

Ayers, J. G., Surgeon. Detached from the Wabash, and ordered to Navy Yard, Portsmouth, N. H.

Cordeiro, F. J. B., Passed Assistant Surgeon. Ordered to the Wabash.

Norton, O. D., Passed Assistant Surgeon. Ordered to the Petrel.

Marsteller, E. H., Passed Assistant Surgeon. Detached from the Petrel, and granted leave of absence.

Hall, John H., Surgeon. Ordered to appear before the Retiring Board.

Turner, Thomas J., Medical Director. Placed on retired list, September 21, 1891.

Hall, J. H., Surgeon. Placed on retired list, September 25, 1891.

Boyd, J. C., Surgeon. Ordered to duty on Naval Medical Examining Board.

Marsteller, E. H., Passed Assistant Surgeon. Detached from the Petrel and granted one month's leave.

Norton, O. D., Passed Assistant Surgeon. Detached from special duty at the Naval Academy and ordered to the Petrel.

Hall, J H., Surgeon. Detached from Naval Hospital, Chelsea, Mass., and placed on waiting orders.

Bradley, G. P., Surgeon. Ordered to Naval Hospital, Chelsea, Mass.

Gravatt, C. U., Surgeon. Ordered to Naval Hospital, Brooklyn, N. Y.

Gardner, J. F., Passed Assistant Surgeon. Detached from Naval Hospital, Brooklyn, N. Y., and ordered to the Naval Station, New London, Conn.

North, J. H., Assistant Surgeon. Detached from Navy Yard, New York, and wait orders.

Lung, George A., Assistant Surgeon. Detached from Naval Station, New London, Conn., and ordered to the Navy Yard, New York.

Simons, M. H., Surgeon. Detached from the Enterprise and ordered to hold himself in readiness for sea service.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 3, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	65	11
Scarlet fever	48	6
Cerebro-spinal meningitis	3	2
Measles	38	5
Diphtheria	75	26
Small-pox	2	0
Varicella	2	0
Pertussis	2	8
Erysipelas	0	0
Mumps	0	0
Rötheln	0	0

A Morbid Viennese Custom.—It appears that a somewhat morbid custom exists among the Viennese of having the dead bodies of children and other persons dear to them photographed, and for this purpose the corpse used to be taken to the photographer's studio. The attention of the sanitary authorities having been drawn to the danger of the dissemination of infectious disease by this practice, a decree has been issued by the Austrian Minister of the Interior absolutely forbidding the photographing of corpses in studios open to the public, and the photographing of bodies of persons who have died of any infectious disease by professional photographers, even in private houses. Exception is made of cases in which such photographs may be required for police or medico-legal purposes. In the case of persons who have died of non-infectious disease, the corpses may be photographed at the private residence of the deceased, subject to the approval and on the responsibility of the medical official whose duty it is to verify deaths.

Birds as Surgeons.—Some interesting observations relating to the surgical treatment of wounds by birds were recently brought by M. Fatio before the Physical Society of Geneva. He quotes the case of the snipe, which he has often observed engaged in repairing damages. With its beak and feathers it makes a very creditable dressing, applying plasters to bleeding wounds, and even securing a broken limb by means of a stout ligature. On one occasion he killed a snipe which had on the chest a large dressing composed of down taken from other parts of the body and securely fixed to the wound by the coagulated blood. Twice he had brought home snipe with interwoven feathers strapped on to the site of fracture of one or other limb. The most interesting example was that of a snipe both of whose legs he had unfortunately broken by a misdirected shot. He recovered the animal only on the day following, and he then found that the poor bird had contrived to apply dressings and a sort of splint to both limbs. In carrying out this operation some feathers had become entangled around the beak, and not being able to use its claws to get rid of them, it was almost dead from hunger when discovered. In a case recorded by M. Magnin, a snipe which was observed to fly away with a broken leg, was subsequently found to have forced the fragments into a parallel position, the upper fragments reaching to the knee, and secured them there by means of a strong band of feathers and moss intermingled. The observers were particularly struck by the application of a ligature of a kind of flat-leafed grass wound round the limb, of a spiral form and fixed by means of a sort of glue.

A Strong but Innutritious Diet.—An autopsy made on the body of an Arab stowaway found on a ship in the Thames furnished no signs of disease in the brain or the chest, except a few old adhesions in the left pleural cavity. The gall-bladder was very distended and full. Three small ulcers existed on the anterior coat of the stomach. Several patches of inflammation were found in the small intestine. In the cæcum were found twenty trousers buttons, three cog-wheels (apparently out of a watch, two of them one inch in diameter—these were doubled), one 2-inch steel screw bent double and one 1-inch screw, six pieces of a lock (the biggest piece was 1½ inch long and ½ inch broad), a circular piece of brass (1¾ inch in diameter folded into four), several pieces of iron wire (four were 1½ inch in length), brass, and lead, and two key tallies on a ring, one inch in length. In the ascending colon, about five inches from the cæcum, were found a piece of steel wire one-eighth of an inch in diameter, and three inches and a half in length, bent double, and one small cog-wheel. The weight of these bodies together amounted almost exactly to half a pound. The body was much emaciated; no subcutaneous fat was present in chest or abdominal walls, or any fat round the kidneys. The deceased was quite unknown; no particulars could be discovered by the police employed to obtain evidence for the purposes of the inquest. There was no perforation of intestines, or any sign of disease in the colon.—*The Lancet.*

Morbid Winking by Miners.—Dr. Snell persists in his opinion that there is no reason for supposing that nystagmus or the nervous disease which manifests itself in a morbid winking of the eye, so common among miners, is attributable to working by the imperfect light of the safety-lamp. The fact that the complaint is found among the workers with naked lights is in itself sufficient to throw doubt upon the long-prevalent theory. The Government Inspector of Mines for the Midland District notes, on Dr. Stokes's authority, the case of a man who, after working with the Davy lamp for fourteen years without injury, proceeded to work at a pit where candles were used. He had been employed there for some three and one-half years, and during the last twelve months he experienced symptoms of nystagmus, and had ultimately to leave work and seek medical aid. Dr. Snell has collected a mass of facts and a record of a large number of instances of men suffering from the affection, which will, he believes, be very corroborative of the views he has before set forth, namely, that the prime cause of the affection is to be found in the position assumed by the miner at his work.

The Water in Florence all Condemned.—The commission charged by the municipality of Florence to examine the water-supply of the city, after a thorough and prolonged study, has just made a report in which all the existing sources of the supply are condemned. The Montereggi aqueduct, which comes from above Fiesole, is declared to be a permanent danger to the public health, and the water from that source ought to be definitely abandoned. With regard to the other supply, which is known as the Anconella, on the south side of the Arno, though better than the former, it is not possible to save it from all the causes of contamination which render it suspicious and may, eventually, make it dangerous and unfitted for domestic uses, and the commission advises the most speedy suppression of it for these uses. The wells have long been known as poisonous, and there is no other water-supply attainable without the construction of a new aqueduct, which will require time and money. This is a satisfactory commentary on the rancor shown by the Florentines to the exposure of the insanitary condition of their city by the *Times*. Only bottled waters should be drunk by visitors to the Tuscan capital if they would avoid the risk of typhoid fever.

I'm going into partnership
With a lovely young M.D.,
She brought me safely through the grip,
And now she'll marry me.
She'll keep her practice as before,
She's wise in everything;
And as for me—I'll tend the door
And do the marketing!

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Original Articles.

THE PHYSIOLOGICAL RELATION OF ALCOHOL TO FOOD, AND ITS PROPER USE IN MEDICINE.[1]

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MR. PRESIDENT, LADIES AND GENTLEMEN: This question as to the physiological relation of alcohol to food is one of both scientific and vital importance to the human race. Before it can be discussed, however, with anything like an approach even to practical accuracy, a definite conception of the composition of the so-called food-stuffs is necessary.

The term food must not be used in a vague and meaningless manner, but in such a way that a concise composition will be indicated. When this has been accomplished, a sound and lasting chemico-physiological foundation can be established from the chemical substances which both the chemist and physiologist teach are essential for the perfect growth, development, and maintenance of animal life and its vital powers. The true position held by alcohol in its relation to food can be correctly stated, and its use and abuse, both in health and disease, accurately defined. By understanding fully the true utility of food, the physician can then say just when alcohol can be administered to advantage, and when and why its use should be avoided. His assertions are now based upon sound and fully explained chemico-physiological laws, and appeal not only with clearness but with absolute positiveness to every intelligent mind.

It is also pleasant to note, under these conditions, how rapidly the day recedes which calls for the necessity of trumping up some unknown, vague, and totally undemonstrable poison in connection with the use of alcohol, by which, in some mysterious and almost devilish manner, all its damaging effects upon the system were induced.

One of the questions, however, to be settled first is, what substances shall be considered as food-stuffs, and which are to be omitted from the list. The only satisfactory method by which this can be accomplished is to commence our study with the elementary proximate principles. Following this plan, we find that the fundamental food-stuffs are naturally divided into three well-defined and distinct classes.

The proximate principles form four separate and essential groups, and two accessory classes of compounds, in one of which the common waste products are found, in the other, the by-products, including the leucomaïnes and ptomaïnes. As the last are results rather than an essential part of normal physiological vitality, they can justly be omitted altogether at this time.

1st. The inorganic proximate principles such as water and the inorganic salts, viz., the chlorides, phosphates, carbonates, sulphates, etc. These elements all enter the body under their own form, are not oxidized or split up within the system to form other compounds. They act as it were mechanically, and after having served their purpose in the body, they pass out of the system with the excretions absolutely unchanged in their chemical composition.

[1] Read before the National Temperance Medical Congress, Port Richmond, July 15, 1891.

2d. The CHO class of proximate principles, or those which have for their composition the elements, carbon, hydrogen, and oxygen only, such as fats, sugar, and starch. In the native fluid of the body, milk, there are, however, only two, fat and sugar—the latter in the form of lactose. By many writers upon food and digestion alcohol and the vegetable acids and salts are included in this group of food-stuffs, because in their chemical construction they are formed out of the same elements, carbon, hydrogen, and oxygen; and also for the reason that they undergo nearly the same changes within the system, the final product of elimination being practically identical with all the other CHO compounds. Notice, however, is here given that an exception will be taken to the admission to the list of food-stuffs of these substances, especially of alcohol, which will be more fully explained later.

3d. The CHNOS class of proximate principles, or those which have for their chemical composition carbon, hydrogen, nitrogen, oxygen, and sulphur. The common representatives of this group of food-stuffs are called proteids, and consist of the albuminous parts of milk, eggs, and meats of all kinds, the latter including, both chemically and histologically, fish, lobsters, crabs, turtles, oysters, clams, poultry, game, etc. We also include the nitrogenous or albuminous parts of plant life under the common name, vegetable proteid.

4th. The CHNO and CHNOFeS class of proximate principles, composed of carbon, hydrogen, nitrogen, and oxygen, and those which have an element of iron, or of iron and sulphur, or sulphur alone added to the CHNO compound. These substances, however, do not particularly concern us as food-stuffs, although they do enter into, and are essential for the formation of, the various pigments and coloring matters of the blood and tissues.

In regard to the exact mode of origin and absolute formation of these bodies, we have no definite knowledge from a chemical basis, and it is not necessary that we should enter minutely into the details of this question as regards alcohol and food. That they exist within the body and are of vital importance is unquestioned. But they do not of necessity enter into the composition of the food-stuffs.

To understand accurately the relation of alcohol to food, we must first appreciate the exact composition and uses to the system of the substances which are entitled to be named food-stuffs. Then we must fully understand what changes occur in these substances while they are passing through the body, and also what results are to be obtained while they are being carried through this transitional process. We must know whether they act simply mechanically, or are split up to yield only heat and energy, or are developed into the various body-tissues and gland-structures.

Before this information was at our command we were simply dealing with theoretical assumptions; but when able—as we now are—to assert positively what follows upon the introduction of a CHO compound, like fat, sugar, and starch, into the animal economy, we can speak with an absolute degree of certainty. The results are now as positively known when a similar CHO compound like alcohol is introduced into the system.

At this point table I. is introduced, that we may have clearly before us the true composition of the articles commonly rated as food-stuffs. Also tables II., III., IV., and V., which significantly demonstrate the chemical composition and the results of the oxidation of the

CHO and the CHNOS compounds, together with what they furnish to the body by the cycle of changes through which they pass to form the final or excrementitious bodies to be eliminated from the system.

TABLE I.—*Comparative Table of Food-stuffs.*

Kind of Food.	Water H_2O.	Proteids CHNOS.	Starch, Sugar, and Cellulose CHO.	Fats or CHO.	Mineral Salts.
Human milk.....	88.28	3.41	4.62	3.48	0.21
Cow's milk.....	86.23	3.73	4.93	4.50	0.60
Skimmed milk....	88.00	4.00	5.04	1.80	0.80
Buttermilk.....	88.00	4.10	6.40	0.70	0.80
Cream.....	66.00	2.70	2.80	26.70	1.80
Cheese.....	41.81	29.23	.....	33.84	5.09
Eggs.....	69.05	15.58	.....	13.96	1.41
Average meat....	65.56	17.51	.....	13.16	3.77
Fat meat.....	54.22	15.99	.....	28.22	1.57
Lean meat	74.44	19.77	.....	2.56	3.23
Average fish.....	75.57	16.98	.....	6.20	1.25
Butter.....	11.70	6.50	0.50	87.00	0.30
Bread.....	36.00	7.50	53.85	1.15	1.50
Potatoes.....	74.50	2.25	21.92	0.15	1.18
Lentils.....	12.51	24.81	58.36	1.85	2.47
Beans.....	11.75	24.31	58.03	2.54	3.37
Peas.....	14 93	23.00	57.80	1.86	2.41
Wheat-flour.....	12.46	14.66	67.62	1.93	3.33
Rye.....	13.97	14.27	66.91	2.25	2.60
Barley.....	13.80	12.96	67.18	2.76	3.10
Oatmeal.....	12.05	12.15	67.00	6.55	2.25
Corn.....	14.80	12.50	62.65	8.80	1.25
Millet.....	13.14	12.35	68.35	3.60	3.30
Rice.....	15.14	7.47	75.69	0.80	0.90
Green Vegetables..	88.00	2.50	3.25	1.75	4.50
Alcohol (?).....	0.75	.....	99.25	.....	.....

TABLE II.—*Products of Oxidation of the CHO Food-stuffs and Alcohol.*

Stearine.....	$C_{57}H_{110}O_6$	+ 163(O)	=	$57(CO_2)$	+	$55(H_2O)$
Olein.....	$C_{57}H_{104}O_6$	+ 160(O)	=	$57(CO_2)$	+	$52(H_2O)$
Palmitin.....	$C_{51}H_{98}O_6$	+ 145(O)	=	$51(CO_2)$	+	$49(H_2O)$
Sugar.....	$C_6H_{12}O_6$	+ 12(O)	=	$6(CO_2)$	+	$6(H_2O)$
Starch.....	$C_6H_{10}O_5$	+ 12(O)	=	$6(CO_2)$	+	$5(H_2O)$
Alcohol.....	C_2H_6O	+ 6(O)	=	$2(CO_2)$	+	$3(H_2O)$
	$C_{178}H_{340}O_{80}$	+ 498(O)	=	$179(CO_2)$	+	$170(H_2O)$

TABLE III.—*Results of Oxidizing CHO Compounds.*

Fats, sugars, starches, and alcohol } yield to the body { Heat, energy, and rotundity, and act as lubricating agents, } and are excreted from the body as { carbon dioxide and water.

By this arrangement of our chemical and physiological knowledge we find that the CHO class of substances, introduced as food-stuffs or otherwise, are in the strict limitation of the term non-nutritious elements. They are all stimulating compounds yielding to the system, by their conversion into alcohol like by-products, and by their final oxidation into carbon dioxide and water, heat, energy, lubrication, and rotundity. This latter condition is brought about by the oil-globules being stored up mechanically within the interstices of the white fibrillated connective-tissue substance. They also act as mechanical lubricants, and when kept within physiological bounds aid in sustaining those vital forces by which the proteids, or true nutritive food-elements, are converted into the various structures constituting the animal organism.

When the CHO compounds are taken in excess of the absolute demands of nature, they all tend to stimulate—some more than others—weaken vital action, and present a perfect proteid metabolism, causing to be developed from this incomplete transformation of the CHNOS substances an almost unlimited number of poisonous compounds. Nutrition is now decidedly impaired, and a vast number of pathological problems developed, the discussion of which, although important and interesting, would carry us far beyond the limits of this paper.

A single glance, however, at our proteid tables number IV. and V. illustrates an entirely different result.

Out of these CHNOS compounds alone, as illustrated by table V., we find all tissue-formations and gland-structures are developed.

Or, speaking more correctly, we should combine with them in a mechanical manner some of the mineral substances of our first class, as is the case in the formation of bone-tissue, etc. But even here the two groups are kept separate and distinct so far as any chemical union is concerned.

TABLE V.—*Results of Oxidizing CHNOS Compounds.*

The proteids $C_{72}H_{112}N_{18}O_{22}S$ { are developed into all forms of bodily tissues, } yielding { heat, energy, muscular and glandular activity, } and are excreted from the body as { urea, uric acid, kreatinine, carbon dioxide, water, and sulphuric acid as sulphates.

The fats, sugars, and starches do not join either with free nitrogen or nitrogenous compounds to form proteid bodies. At one time this was supposed to be the case, because by artificially exercising a muscle under a closed bell jar carbon dioxide was obtained. But as carbon dioxide is one of the natural products resulting from ordinary proteid oxidation—as shown in Table IV.—it is far more reasonable to argue that the CO_2 so acquired comes direct from the proteid body, than to attempt in some unexplainable manner and by a method totally in opposition to well-known chemical laws, to bring it from some other source. In fact, chemistry further teaches that these CHO substances are rapidly transformed into alcohol-like compounds, and finally into carbon dioxide and water; but up to the present time chemists have not been able to imitate plant life so thoroughly as to make these CHO elements combine either with free nitrogen or nitrogenous compounds and form proteid bodies.

By this careful study of the subject and of the tables illustrating the results that may be obtained by oxidizing fat, sugar, and starch, and even alcohol, we find that these bodies are all quickly transformed over into the final products, carbon dioxide and water, and that they do not, from the nature of the chemical laws governing their oxidation, tend to stop short of this complete result.

With regard to the proteid or CHNOS elements of the food-stuffs, we find the task of transforming them is much more difficult, and that they are very prone to stop short of the final and complete products of oxidation. Table VI. illustrates most perfectly a few of these abnormal results, such as the uric acid, oxalic acid, lactic acid, and the induction of the rheumatic state and the diabetic condition or diatheses, as they are sometimes designated.

The examples above given are only a few of many abnormal sequences which follow an interrupted or an abnormal metabolism of the proteid elements. These are cited because they are among the simplest deviations, and are pathological conditions familiar to every clinician.

The great reason for dividing our food stuffs into their fundamental classes is to avoid every source of error which otherwise would arise in the discussion of this important subject. To compare alcohol to a proteid is not in the least justifiable, as one is a nutritious and the other a non-nutritious and stimulating compound. Likewise, to compare alcohol to a given vegetable or to a cereal is only misleading, for in the former we are dealing with a simple

TABLE IV.—*Possible Products of Oxidation of the Proteids or CHNOS Food-stuffs.*

	Proteids	+ Amount of oxygen used =	Urea	+	Uric acid	+	Kreatinine	+	Carbon dioxide	+	Water	+	Sulphuric acid.
1. Superoxidation	$C_{72}H_{112}N_{18}O_{22}S$ +	151(O) =	$7(CH_4N_2O)$	+	$C_5H_4N_4O_3$				$60(CO_2)$	+	$39(H_2O)$	+	H_2SO_4
2. Normal oxidation		139(O) =	$4(CH_4N_2O)$	+	$C_5H_4N_4O_3$	+	$2(C_4H_7N_3O)$	+	$55(CO_2)$	+	$38(H_2O)$	+	H_2SO_4
3. Suboxidation		136(O) =	$2(CH_4N_2O)$	+	$2(C_5H_4N_4O_3)$	+	$2(C_4H_7N_3O)$	+	$52(CO_2)$	+	$40(H_2O)$	+	H_2SO_4

TABLE VI.—*Possible Products of Oxidation of the Proteids or CHNOS Compounds, or Food-stuffs.*

Oxidation.	Proteid	+ Amount of oxygen used	= Urea	+ Uric acid	+ Kreatinine	+ Oxalic acid	+ Lactic acid	+ Glucose	+ Carbon dioxide	+ Water	+ Sulphuric acid or sulphate.[1]
1. Highest	$C_{72}H_{112}N_{18}O_{22}S$ +	$154(O)$ =	$9(CH_4N_2O)$ +						$63(CO_2)$	+ $37(H_2O)$	+ H_2SO_4
2. Super		$151(O)$ =	$7(CH_4N_2O)$ +	$C_5H_4N_4O_3$ +					$60(CO_2)$	+ $39(H_2O)$	+ H_2SO_4
3. Normal		$139(O)$ =	$4(CH_4N_2O)$ +	$C_5H_4N_4O_3$ +	$2(C_4H_7N_3O)$ +				$55(CO_2)$	+ $38(H_2O)$	+ H_2SO_4
4. Uric acid		$136(O)$ =	$2(CH_4N_2O)$ +	$2(C_5H_4N_4O_3)$ +	$2(C_4H_7N_3O)$ +				$52(CO_2)$	+ $40(H_2O)$	+ H_2SO_4
5. Oxalic acid		$129(O)$ =	$2(CH_4N_2O)$ +	$2(C_5H_4N_4O_3)$ +	$2(C_4H_7N_3O)$ +	$7(C_2H_2O_4)$ +			$38(CO_2)$	+ $33(H_2O)$	+ H_2SO_4
6. Lactic acid		$124(O)$ =	$2(CH_4N_2O)$ +	$2(C_5H_4N_4O_3)$ +	$2(C_4H_7N_3O)$ +		$2(C_3H_6O_3)$ +		$40(CO_2)$	+ $34(H_2O)$	+ H_2SO_4
7. Diabetic		$76(O)$ =	$2(CH_4N_2O)$ +	$2(C_5H_4N_4O_3)$ +	$2(C_4H_7N_3O)$ +			$5(C_6H_{12}O_6)$ +	$22(CO_2)$	+ $10(H_2O)$	+ H_2SO_4

[1] Represented in the urine by a sulphate.

CHO element, but in the latter with a complex body composed of three similar, but distinct, CHO non-nutritious stimulating substances, and one purely nutritious or CHNOS compound element, which is capable when perfectly oxidized of being developed into all forms of bodily tissues and glandular structures. For these reasons it has seemed absolutely essential to resolve our food-stuffs into their component parts, and to first compare elements of like nature and then those of dissimilar composition, that the true position of alcohol may be clearly elucidated. Comparative deductions between a simple CHO element on the one side and a compound and complex CHNOS substance on the other, will of necessity yield absolutely different results—sequences which in a measure have no relation whatever to each other. For, as we have seen, one class furnishes tissue forming elements, while the other does not, but yields simply heat, energy, and rotundity, and acts as a lubricating agent.

Another thing of importance to be considered in this discussion of the physiological relation of food and alcohol, is the composition and comparative merits of the commonly admitted food-stuffs and their respective functions.

If we commence by an examination of milk, which is Nature's primary food-supply to the infant, we find that during the early stages of lactation, it contains more of the CHO elements, or fat and sugar, than it does of the CHNOS, or proteid compounds. This, however, is evidently one of the wise provisions of nature, for in this arrangement the milk supplies to the infant the elements for generating the heat and energy which the child in itself is not capable of producing by its own movements, or of developing out of the oxidation of the proteid compounds casein and serum albumin contained in the milk. At least not in sufficient quantities to keep up a perfect physiological condition; and even under the existing circumstances extraneous warmth must be added for the most complete development of the child. As the infant progresses and the period of lactation advances, the fat and sugars of the milk are decreased, which is equivalent to a rise in proteids so far as relative quantities are concerned. With the further growth of the child eggs should be added to the diet, as they furnish the next best food, simply because the percentage of the proteid elements exceeds that of the fats. Yet the latter or CHO substances are constantly supplied in quite large amounts in the eggs and in the milk, which is still to be freely used. The fats and sugars in this manner are supplied at all times in sufficient quantities, at least, to maintain the required bodily heat, energy, and lubrication.

With a little more advance in the development and appearance of the teeth, lean meat should be added to the diet. This by its preponderance in proteids will furnish a liberal supply of that much-needed nitrogenous pabulum out of which the growing tissues and glandular structures can alone be formed. This egg and meat diet with the milk should be fully established before the first year of life is passed. The fat of the meat that cannot be isolated from the muscle-fibre, together with the sugar and fat of the milk, and the fat of the egg, will still supply an abundance, if not an excess, of the CHO compounds to yield all the heat, energy, and lubrication that is required aside from that which is generated in connection with the proteid transformation.

In some rare instances it may be wise or even necessary to add some of the starch and sugar substances, but as a rule this should not be attempted until the end of the first year or later.

The results which follow such a course of feeding are the growth and development of strong and robust children, and the formation of powerful adults having the maximum amount of vital force and resisting powers. We have children whose oxygenating capacity is not over-taxed, and in whom the nervous mechanism is not continually hyperstimulated by this quick transformation of an over-abundance of the CHO elements. These fats, sugars, and starches, which are constantly being oxidized into alcoholic like compounds when taken in excess, yield an unduly large amount of heat and energy, usually at the expense of a perfect metabolism of the proteids or CHNOS class of food-stuffs. Consequently the above desirable conditions cannot be acquired if the CHO elements are allowed to preponderate, for the system is absolutely dependent upon a complete transformation of the proteids to obtain the highest type of development.

Another very potent reason for not using the CHO compounds in abundance at this early period of life is found in the fact that in the infant the pancreatic gland, which has for one of its functions the production of a starch transforming ferment, does not, under the most favorable circumstances, commence to secrete this agent, amylopsin, until near the end of the first year or well into the second year of existence, This ferment is the active principle by which most of the starch and sugar is finally transformed into a diffusable glucose, and when it is absent all starchy compounds that are introduced into the alimentary canal must remain undigested, and tend to undergo retrograde changes, excite digestive derangements, and interrupt the perfect metabolism of the proteid bodies, thus in another or indirect way enfeebling the system at large.

The quickness with which the pancreatic gland can be developed and empowered to produce this ferment will depend largely upon the early feeding and the nutritive tone of the infant. If the child is fed liberally upon the proteids, and the CHO elements are not pushed to excess at the expense of the former compounds, the development of the pancreatic gland and of all its ferment bodies will be established early, but if fed in an opposite manner the reverse can be expected. Still another reason for avoiding the sugars and starches during the infant period, and in fact throughout life, is that we have found them to be non-nutritious, stimulating compounds, which cannot be combined by the animal chemico-physiological powers with free nitrogen or with nitrogenous bodies to form the proteid protoplasmic elements, which are absolutely necessary in the construction of all the tissues and gland-structures.

The almost universal practice of using vegetables and cereals so largely, and often to the exclusion of the requisite quantity of milk, eggs, and meat, is the chief factor in devitalizing the human race, and stimulating a common and strong desire on the part of the human system for the more quickly acting alcoholic compounds. This false method of feeding is the foundation of most dyspeptic, rheumatic, and chronic diseased conditions. It is also the great cause of the large infant mortality, and the almost universal tendency to develop tuberculosis upon the slightest provocations.

This excessive use of the CHO compounds is the

prime agent in keeping down general longevity, which should be decidedly advanced by our present superior knowledge.

We find, by reference to Table VII., that for bare subsistence, equal quantities of the CHNOS and CHO food-stuffs will maintain an existence. When the work is increased, however, both kinds of food-stuffs must be raised in quantity to meet the demand, but the necessary rise in the proteids is very much greater than is the case with the fats, sugars, and starches.

TABLE VII.—*Comparative Diet Table.*

Diet.	CHNOS.	CHO.
Bare subsistence	100	100
Moderate exercise	180	161
Active labor	232	171
Forced work	242	189

With this information well in mind, if we look at the composition of our food-stuffs as given in Table I., and particularly at the vegetable list and the cereals, and compare them with meat and eggs, we find that although they do contain in most instances a large percentage of the proteids or CHNOS compounds, the preponderance of the CHO elements is still very great. Consequently it is absolutely impossible to use them with safety from bare subsistence up to an active or forced labor diet, to meet the physiological demands of the system, for the reason that to obtain the requisite percentage of the proteid elements necessitates the introduction of an enormous excess of the fats, sugars, and starches, particularly the latter. As a result of such an attempt the CHO compounds, which are most easily oxidized, are transformed first, with the production of an abnormally large quantity of heat and stimulation, which tends to exhaust the oxygenating capacity of the blood; and next the proteids, which, although introduced in the proper amounts, are nevertheless incompletely oxidized. The natural sequence is a system constantly over-stimulated and in a state of intense physiological excitement, while all the tissues are becoming poorly nourished. This state of affairs is naturally followed in time by insomnia, hypochondriasis, neurasthenia, and a host of other mental and physical diseases of various names, until the unfortunate sufferers lose mental balance through this defective nutritive condition, and are driven in madness and despair to seek for relief in alcoholic stimulation, and often the latter end is worse than the first.

It becomes quite apparent, therefore, that there is a very general and strong tendency to carefully feed the human mechanism upon the non-nutritious and stimulating food-stuffs, to the exclusion of the proteid or nutritious class—either directly, or indirectly by crowding the proteids out with an over-indulgence in the fats, sugars, and starches—till finally, by force of necessity the system arrives at a point where alcohol alone will satisfy the demand for stimulation. Each additional dose or potion of alcohol introduced into the body leaves the animal economy more poorly nourished, more quickly and positively depressed, so soon as the exhilarating effects of the alcohol have passed off. With each succeeding draught and its consequent depression the demand on the part of the system becomes more and more urgent for restimulation, until finally the picture of the insane drunkard is presented to us. All the vital powers of the body are positively deteriorated, until both the physical and mental courage is reduced to such a low ebb that all chance for restoration and recovery is nearly destroyed. But, fortunately, and from the fact that alcohol *per se* has no poisonous properties, when the alcoholic supply is withdrawn and in its place is supplied a liberal allowance of the proteids or CHNOS compounds, the nutrition is quickly re established, the tone of the tissues improved, normal glandular activity induced, and the physiological functions, the physical and mental powers raised up to, or even carried above, the normal standard. When once this is accomplished the system is in a strong position to resist all damaging influences, and the individual can fight manfully and successfully the little desire that is left for alcohol and its stimulating effects.

If there is a return to an excessive use of alcohol, it invariably follows a period of over-work or an incomplete supply of the truly nutritive food-stuffs, or else it is on account of consummate moral depravity.

Unless the buoyancy of spirits developed from this stimulation by alcohol has been fully appreciated under these circumstances of intense depression, it is absolutely impossible to understand or realize what the sufferings are, or how strong the desire for relief becomes.

Neither can it be understood why the system returns so quickly to the alcohol. For such reasons as these, great sympathy should be extended to these unfortunate and half starved mortals.

The restoration in such instances commences at the bottom of the physiological foundation, and not alone at the apex of a moral peak.

When an opposite course of feeding is pursued up to manhood and on through life, an entirely different result will be obtained. If the infant and growing child is fed according to the laws of nature—and not by the rules of the "say sos"—upon a liberal nitrogenous diet with just enough of fat, sugar, and starch, or CHO elements to sustain the heat and energy of the body and at the same time allow a perfect oxidation of the proteids, or CHNOS compounds, a powerful physiological organism will be engendered which will place the individual in a position to abstain easily, not only from the use of alcohol, but also from all substances that will in any degree tend to undermine or weaken the moral and physical forces of his natural being.

Continued, or even vigorous, work does not leave the body in that exhausted and depressed condition that demands so strongly a powerful and quick stimulation to disperse the physical and mental lassitude. In the former examples this was developed to a degree of desperation, and with a desire that must be met at once regardless of the consequences that followed.

In properly-fed subjects, although they are often very much over-tired and even at times exhausted, the nitrogenous food-stuffs and natural sleep are generally found to be more than equal to the demands of the system, and alcoholic stimulation is not required or even desired. This is most perfectly and beautifully illustrated in the well-nourished child who, after the night's sleep and rest, always arises bright and early, brimful of life, vigor and activity, and full ready for another day of intense activity.

When the mental or physical powers, or even both, have been severely taxed and brought into a condition bordering upon extreme exhaustion, and when great depression of all the physiological functions is induced, alcohol, by being quickly absorbed and rapidly transformed within the system with its large yield of heat and energy, can often be used to great advantage on account of its mighty power to call temporarily into action all the reserve forces of the system. Under these circumstances alcohol alone is a very valuable adjunct to our dietary or medicinal list.

Whether alcohol is to be called a food-stuff or a drug naturally depends somewhat, if not entirely, upon the limitation of the term food-stuff. In connection with our present chemical and physiological knowledge in relation to the food-stuffs, and our present study of the subject, alcohol, more accurately speaking, belongs to the class of medicinal stimulants. Alcohol in these conditions, by its power to stimulate quickly and forcibly the nervous mechanism and call into action all the functions of the body at large, often enables the system to regain its normal physiological tone, when it could not accomplish this result by the aid of any or all the other known means of stimulation at our command. Thus by this most valuable influence of alcohol, many a life has been and can be

saved, that without its aid must of necessity have been sacrificed.

Tea and coffee act in a somewhat similar manner to alcohol. So do many other agents which contain nitrogenous and glucosidal principles. Caffeine and theine are of less utility as stimulants, because they are not so quick and forcible as alcohol, but they are also capable of serving the body as nutritive compounds. This statement holds true for most of the alkaloids. A few of the liquid alkaloids and volatile nitrogenous compounds, and some of the glucosides or CHO elements, are equally as rapid in their stimulating action as alcohol, but can only be used for a very short time, and then must be replaced by alcohol or the patient will die. This is due to their developing more rapidly than does alcohol poisonous compounds within the system when their use is prolonged.

Some of the alkaloidal principles in their transit through the body have a poisonous action, or develop toxic leucomaïnes or ptomaïnes by their presence within the system, and consequently cannot be administered in sufficiently large amounts to produce the desired effects as food-elements. From the nitrogenous nature of their composition and the theoretical facts—as illustrated by Table VIII.—(showing that they can be oxidized into urea, carbon dioxide, and water), some of these alkaloids, like caffeine, can be utilized by the system not only as a stimulant, but also to serve the purpose of a nutritive compound for the support of the body-tissues and gland-structures.

TABLE VIII.—*Possible Products of Oxidation of the CHO, CHN, and CHNO Drugs.*

Drugs.			Amount + of oxygen used	=	Urea	+	Carbon dioxide	+	Water
1. Alcohol		C_2H_6O	+ 6(O)	=	.....		$2(CO_2)$	+	$3(H_2O)$
2. Digitoxin	Glucoside?	$C_{21}H_{32}O_7$	+ 51(O)	=	.....		$21(CO_2)$	+	$16(H_2O)$
3. Digitalin	Glucoside	$C_5H_8O_2$	+ 12(O)	=	.....		$5(CO_2)$	+	$4(H_2O)$
4. Digitalein	Glucoside	$C_{25}H_{40}O_{15}$	+ 55(O)	=	.....		$25(CO_2)$	+	$20(H_2O)$
5. Digitonin	Glucoside	$C_{31}H_{52}O_{17}$	+ 71(O)	=	.....		$31(CO_2)$	+	$26(H_2O)$
6. Convallamarin	Glucoside	$C_{23}H_{44}O_{11}$	+ 57(O)	=	.....		$23(CO_2)$	+	$22(H_2O)$
7. Strophantin	Glucoside	$C_{30}H_{51}O_{11}$	+ 46(O)	=	.....		$20(CO_2)$	+	$17(H_2O)$
8. Sparteine	Liquid alkaloid	$C_{15}H_{26}N_2$	+ 40(O)	=	CH_4N_2O	+	$14(CO_2)$	+	$11(H_2O)$
9. Ammonia	Carbonate	$2(N_2H_{11}C_2O_5)$			$3(CH_4N_2O)$	+	CO_2	+	$5(H_2O)$
10. Caffeine and theine	Alkaloid	$C_8H_{10}N_4O_2H_2O$	+ 13(O)	=	$2(CH_4N_2O)$	+	$6(CO_2)$	+	$2(H_2O)$
11. Strychnine	Alkaloid	$C_{21}H_{22}N_2O_2$	+ 47(O)	=	CH_4N_2O	+	$20(CO_2)$	+	$9(H_2O)$
12. Atropine	Alkaloid	$2(C_{17}H_{19}NO_3)$	+ 82(O)	=	CH_4N_2O	+	$33(CO_2)$	+	$18(H_2O)$
13. Morphine	Alkaloid	$2(C_{17}H_{19}NO_3)$	+ 85(O)	=	CH_4N_2O	+	$33(CO_2)$	+	$21(H_2O)$

Caffeine and some of the other alkaloids are less volatile and transient in their effects than alcohol, and furnish to the system nutriment while passing through the body, and consequently are not so liable to be carried to the dangerous excess so commonly witnessed when the various CHO elements are administered.

Although alcohol has this mighty power for good, it should always be regarded as a dangerous medicinal agent, and a substance never to be admitted to the common list of food-stuffs for daily consumption. It should never be taken by the young and middle-aged when in a fairly good physiological condition. Alcohol should never be introduced into the system except when positively diseased processes are present. At times, however, in connection with the weakening and retrograde states which are the necessary concomitants of advancing years, a little alcohol may be used daily with the ordinary food-stuffs to great advantage, to meet those deteriorating influences which are equivalent, so far as the physiological functions of the body are concerned, to pathological changes. Used at this age and under these limited circumstances, alcohol decidedly improves the general health and greatly prolongs human life and usefulness.

The chief reason why the ordinary individual in health should not use alcohol is, that he has no means for knowing the exact quantity that can be taken safely and still keep within the physiological limit, but is very much more likely to imbibe more than is reasonably required. When the use of alcohol is held rigidly within the physiological limit, as it should be if used at all with the other food-stuffs, no perceptible effect will be directly experienced, but a gradual and daily improvement in the general condition will be the invariable result. If, however, the alcohol is once carried beyond the absolute physiological boundary line—which again is never stationary but constantly oscillating—it invariably leaves the system in a state of secondary exhaustion which is far greater and more depressing than the primary state which it was taken to relieve. This second sinking often leads to the false supposition that enough of the alcoholic stimulant was not ingested to meet the primary demand. More is imbibed, followed by an increased or second alcoholic depression far worse than the first, and so on repetition follows repetition, until finally the oxidation of the proteids is perceptibly impaired and the alcoholic habit almost irreparably established.

Viewed in this light alcohol becomes a food-stuff in the same manner as any of the CHO compounds, such as fat, sugar, or starch; but it is an element of high and dangerous potency, one that cannot be safely used by all, and for that reason alcohol should not be classed, nor introduced into the system, as one of the ordinary food-stuffs.

With this exact chemical and physiological knowledge upon this important subject, alcohol clearly belongs exclusively to the domain of medicine, and even there its use should be guarded by an ever-watchful care and its administration always kept strictly within the physiological boundary line. For in the combined elements C_2H_6O, which constitute the chemical composition of alcohol, we find consummate powers for good and equally mighty elements for damaging the human economy. By its use life can be saved or destroyed, depending entirely upon the skill of its administration.

The deductions which naturally arise from this study of the subject are:

1st. That three classes of proximate principles are necessary to maintain life, and must be supplied as food-stuffs.

2d. That the term food-stuff should be limited to those substances which contain at least one element from each of these three classes in its composition, viz., an inorganic, a CHO, and a CHNOS element.

3d. That the first act mechanically, the second as non-nutritive stimulants, and the third as true nutritive elements which enter into the essential construction of all the tissues and glands of the body.

4th. That the use of the second class or CHO compounds—including alcohol—when taken in excess of the absolute demands of nature, all tend to overtax the oxygenating capacity of the system and prevent a complete oxidation of the proteids or CHNOS bodies.

5th. That this continued over-stimulation and the half-starved condition arising through this excessive use of the CHO or non-nutritive and alcohol-forming compounds, tends most decidedly to weaken the vital forces, develop diseased conditions, and create the habit on the part of the system to take to alcoholic stimulation.

6th. That alcohol *per se* is no more poisonous than fat, sugar, and starch, but they are all factors in depriving the system of its full quota of oxygen to act upon the proteids, and from this incomplete transformation of the latter or CHNOS elements, nutrition is impaired and an almost unlimited number of toxic bodies produced.

7th. That alcohol and the chemical elements which enter into its atomic construction, and the transformation they undergo in passing through the system, and the final products eliminated from the body, are practically the same as follow upon the introduction of fat, sugar, and starch.

8th. That alcohol should only be classed as a medici-

nal agent, and never be used in health as a common article of food.

9th. That to combat most satisfactorily and successfully the alcoholic habit, the proteids or CHNOS food-elements should be the principal substances used, and the CHO compounds of all kinds should be avoided as much as possible.

10th. That there is a common tendency to feed improperly the animal economy from infancy to the grave, and to this false habit all the ills of the human race are largely traceable, and in it we find the chief factor in producing and maintaining the alcoholic habit.

The Strathmore,
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AN EARLY DIAGNOSIS THE BEST TREATMENT IN POTT'S DISEASE OF THE SPINE.[1]

By V. P. GIBNEY, M.D.,

new york.

Mr. President and Gentlemen of the Association: The selection of a title which will prove of interest to practitioners in general is not an easy task. An experience with deformities extending over a period of twenty years prompts me to plead, wherever an opportunity offers, for early diagnosis.

At the Hospital for the Ruptured and Crippled and at my clinic, and even at my office, one would be amazed if he knew how many cases of Pott's disease of the spine come for treatment after the existence of deformity. The average practitioner seems to think that one must not think of making a diagnosis until deformity has arisen. When pressed for an opinion, he says: "Wait a while till we see how it is going to develop." He discourages the use of apparatus, talks about people being brace-ridden or bed-ridden, and prefers to wait until the disease has made irremediable progress. The recognition of the disease before any deformity arises is not difficult, provided the physician has accustomed himself to making a thorough examination. The train of symptoms that belong to the early stages of Pott's disease is unmistakable when taken collectively.

For all practical purposes it may be assumed that recession of the bosse in Pott's disease never takes place. I use the terms "for all practical purposes" advisedly. I am aware that Dr. Taylor, of New York, has reported cases wherein recession has taken place, and I am perfectly willing to accept the report of his case. Still, the rule is that orthopedic surgeons do not obtain this result. Our only hope for the patient is our ability to make a diagnosis before any bosse appears. This diagnosis should be made before even a spinous process projects out of the normal line.

For ten or fifteen years of my professional life I worked daily with what is known as the Knight spinal brace. This consisted of a framework of steel which gave lateral and antero-posterior support to the spine, secured to the body by means of a canvas lacing in front. I can recall many instances now, and the hospital records, indeed, are full of extraordinary cases subjected to this method of treatment. There are many on record wherein no deformity was permitted. We got a case early, before deformity presented, adhered religiously to the apparatus, saw that it fitted well, persisted in the prolonged use of the same, and the results were indeed gratifying. Then again, I had a pretty long experience with the plaster-of-Paris jacket. When Dr. Vance, of Louisville, was associated with me at the hospital, many years ago, we used the Vance paper brace, made of manilla paper and glue. For at least four or five years I have used in private practice what is known as the Taylor spinal assistant, or, the Taylor spinal brace. By observation simply, I am more or less familiar with the effects of the woven wire corset. The rawhide and the felt jackets have also come under my observation, and I feel no hesitation in giving my opinion any time about any special form of apparatus. I have often heard surgeons who had invented an apparatus, or who had not had a very extensive experience, make the statement that with this or that apparatus deformity in any part of the spinal column could be prevented. I have heard these same gentlemen, years afterward, when questioned closely about the prevention of deformity, admit that if the disease appeared between the last cervical and seventh or eighth dorsal vertebra, it was next to impossible to prevent deformity. Recumbency in bed, with traction at the head and counter-traction at pelvis, with sand-bags on either side of the neck, has failed, in my experience, to prevent a certain amount of deformity in this region. For the purpose of illustration I should like to present for your consideration a few cases.

Case I.—A boy, five years of age, came under my care on February 6, 1888. A diagnosis was made of ostitis of the cervical vertebræ with abscess in right cervical triangle, anteriorly. He had been under the care of a distinguished surgeon, a veteran in orthopedic work, for at least a year and a half. The symptoms had been dropping of the head with chin toward sternum, occasional pain in the occipital region, but no bony deformity. Then the abscess appeared, and this was regarded as glandular. He was never really put under any critical examination. I found a certain amount of spasm of the muscles about the neck, especially those in front; rotators offered a little resistance. As he bent his head forward there was a slight amount of bony fulness of the transverse processes in the cervical region, but none over the spinous processes. The mother reported that for the last year, even, he had shown a disposition to rest on his elbows and was fond of lying down. I advised an apparatus with a jury-mast, or head-support, and also the opening of the abscess. It was a month before they permitted the operation to be done. On making incision, I found a small piece of bone which had evidently come from the body of the vertebræ. The cavity was well exposed, thoroughly cleansed, and after six or eight months it finally closed. He wore the apparatus with head-spring faithfully night and day, and on July 14, 1890, I made a note that his spine was perfectly straight — no deformity whatever. Sinus was closed. The mother reported that sometimes it opened. The appliance still retained for the sake of protection. September, 1890, the apparatus was removed. Functions of the head apparently perfect. October 23, 1890, discharged cured. I had an opportunity of making an observation on January 23, 1891. There was still no deformity, and I am satisfied that a perfect result has been obtained.

Case II.—On November 4, 1886, a girl, five years of age, was referred to me by my friend Dr. George L. Peabody, of New York. She walked like an aged woman, bent over. Had been complaining since the August preceding. Occasionally she cried with pain. Had great distress about the epigastrium, and was disposed to keep the right thigh flexed on pelvis. The present exacerbation was only of a month's duration—came on after a strain. She was treated for gastric distress by her family physician, not Dr. Peabody.

I found it impossible to straighten her by suspension, yet there was considerable spasm of the psoas and iliacus muscles. Deep exploration of the iliac fossa failed to detect any abscess. I applied a plaster of Paris jacket. November 17th, a note was made that a spinous process projected, but otherwise she was straight. The plaster failed to give the desired support, and in May, 1887, I applied a Taylor brace. On June 2d I discovered a deep psoas abscess, and on June 10th I made deep pressure over the abdominal walls, got the walls in pretty close contact with the tumor, thrust a needle quickly through into the tumor, and removed about a half ounce of pus with the aspirator. On June 20th I repeated the operation under ether; again on the 27th. This time there was very little. I went abroad that summer, and

[1] Read before the Canadian Medical Association, at Montreal, September 16, 1891.

on my return, on September 15th, she walked perfectly erect, showing no lameness whatever. I could not detect any sign of the abscess. It was cured. From time to time I have made notes of the case. On October 10, 1887, I reported her in a paper on the "Management of Abscesses in Connection with Bone Disease." My last note was made November 4, 1890. "Hip functions perfect; limbs equal in length; no deformity of the spine; general health excellent; cure complete."

CASE III.—On December 30, 1889, Dr. Vander Veer, of Albany, placed under my care a lady, thirty-two years of age, who gave the following history: Three years before this, while riding horseback, she was considerably jolted, had pain at once, and was lame for several weeks after this. The pain then wore off apparently, and the following winter, while in Jacksonville, Fla., she had the same pain under the same circumstances.

She presented a very slight bosse, or kyphosis, in the dorso-lumbar region, extending from the sixth or seventh dorsal down to the sacral, the apex of the bosse being about the twelfth dorsal. There was a lateral deviation as well. The outline of the deformity was very unlike that of Pott's disease, and but for the presence of a fluctuating tumor just above the crest of the ilium, right side, in the ilio-costal space, I should have hesitated somewhat in making the diagnosis. The lady was the mother of a family, well developed, well nourished. The pain had been rather persistent. A needle soon detected pus in this tumor. I began treatment at once, employing for her a Taylor brace. The abscess was aspirated by Dr. Vander Veer. She suffered a good deal of inconvenience during the month following the adjustment of the apparatus, because I had not had a fair opportunity of fitting it. As soon as it was made comfortable she had no further trouble with her back. I think she had, during the following spring, two or three aspirations, and during the remainder of the year there was nothing of any special interest in the case other than a general progress toward recovery. On February 3, 1891, I found it difficult to detect even the sac of the abscess. She had worn the brace continuously, night and day, there was no spinal tenderness, the deformity had not increased. In March of present year, 1891, I replaced the steel brace with a corset heavily boned, and on May 11th she reported that she felt almost as well as ever she did. In other words, I discharged the case as cured, with the caution that she must wear this heavily-boned corset and avoid any unnecessary jar or concussion in the future.

CASE IV.—The following case is of interest because of certain difficulties in diagnosis: A robust man, thirty-two years of age, was referred to me on March 10, 1891, by Dr. MacCreery, of New York, with a history that two weeks prior to this date he was injured in a railroad accident. He fell backward, striking his loin against an iron casting. Three or four hours afterward he had to give up walking, but next day was going about, still complaining of this bruised feeling. There was a little irregularity of the spinous processes of the last dorsal and first, second, and third lumbar. He was exquisitely sensitive. The erector spinæ muscles on the left side were more prominent than those on right. If he held himself erect, this irregularity did not disappear. I could find nothing in the iliac fossa except superficial tenderness. The thighs were moved quite freely without resistance, so that I made a diagnosis of simple contusion and advised rest and the Paquelin cautery. On May 15th Dr. MacCreery asked me to see him again, because of continued pain in his back and of his increased awkwardness of gait. The doctor had applied a plaster-of-Paris jacket, but the patient had cut it out in places, and hence it was no longer efficient. I found, now, tenderness on concussion, no angular deformity, but pains in the epigastrium and down the thighs. The spinal column was very sensitive to pressure. The spinous processes of the eighth and ninth dorsal vertebræ seemed a little more prominent than those immediately above and below. This little fulness could be detected only by very close examination. I put him quite straight in the swing, applied a plaster-of-Paris jacket, made it into a corset, and began treating him with the Paquelin cautery once or twice a week. I have not allowed the jacket to be removed, except when he is in the swing partially suspended. Then I take it off, have his back washed, apply the cautery, put on a clean undervest, and lace up the jacket snugly before he leaves the swing. In this way he is making material progress. One or two physicians have examined him, but failed to see any signs of Pott's disease, remarking that it is best to wait until we see deformity.

The cases just reported illustrate, I think, the necessity of close examinations, and of giving the patient the benefit of whatever doubt may exist. If one finds a history of trauma in an adult, and this trauma followed by pains of a vague nature, pains that follow certain nerves, these signs should command very close attention. It must be remembered that spinal tenderness is the rule in adult life, the exception in childhood. The average physician is sufficiently well-informed in anatomy and physiology to interpret pains and muscular spasm; the average physician can easily recognize deviations from the natural form, and the only reason why correct diagnoses are not more frequently made is that the average physician doesn't strip the patient and subject him to a critical examination. If my paper, thus hastily put together, impresses a certain number of my hearers with the importance of a routine examination, then my object will have been attained. Remember that the successful treatment does not depend so much on the apparatus employed as on a careful diagnosis. Anyone, I am sure, who can diagnosticate this lesion will have become sufficiently familiar with the clinical history and the pathology to appreciate the value of prolonged immobilization and rest to the parts diseased.

ON DERMATOL, A PROPOSED SUBSTITUTE FOR IODOFORM—ITS USE IN SURGICAL PRACTICE.

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IN June of the present year Heinz and Liebrecht[1] commended to the profession, for use as an antiseptic powder, a basic gallate of bismuth to which they gave the name "Dermatol."

The remedy is a yellow, fine powder, unaffected by exposure to light and air, and non-hygroscopic. It had been the subject of extensive experimental and clinical investigation at the university in Breslau, having been used in surgical, gynecological, and dermatological practice. It was found to influence the healing process in wounds, ulcers, and the like in a markedly favorable manner, and was thought to combine the better properties of iodoform with the decided advantages of being without odor, non-poisonous, and non-irritating. It was recommended for use in all dressings in which we are accustomed to employ iodoform.

In a further communication Heinz[2] gives in detail the causes which led to the experimentation and the manner in which it was conducted. He says, with truth, that an antiseptic should not only be able to kill germs or restrain their growth, but that it should also be free from injurious local or general effect. It should not cauterize or irritate the wound or its surroundings.

Of the dry antiseptics, iodoform alone has thus far been able to prove itself of exceptional value, and to win for itself a permanent place in surgical practice.[3]

[1] Berliner klinische Wochenschrift, 1891, No. 24.

[2] Ueber das Dermatol, Berliner klinische Wochenschrift, 1891, No. 30.

[3] An exceptionally clear and complete paper on the Present Status of the Iodoform Question, by Dr. W. W. Van Arsdale, appeared in the Annals of Surgery for 1889 (vol. ix., p. 202). I judge the present views to differ but little from those expressed in this résumé.

The disadvantageous qualities of iodoform, however, are only too well known. Most prominent among them is its poisonous effect,[1] and it is never quite possible to estimate personal idiosyncrasy and susceptibility when using the drug. This alone makes it most desirable to seek a substitute, and in a search for something which would replace iodoform Heinz and Liebrecht experimented with various of the iodine-holding compounds (Iodacetanilid, Iodsalicylsaüreanilid, etc.), many of the phenols, pyrogallic acid, chrysarobin, hydroxylamin, phenylhydrazin, and a large number of other substances, all without satisfactory result. Gallic acid commended itself as a non-poisonous, reducing agent, and as a metal with which to combine this acid bismuth was selected because of the astringent and "drying" effects which its inorganic salts have shown.[2]

The basic gallate of bismuth proved itself to be a non-irritating, non-poisonous drug, while it seemed to possess the better qualities of the subnitrate of bismuth in a marked degree.

Large doses were given to dogs and rabbits, considerable amounts were introduced beneath the skin and in the peritoneal cavity, all without poisonous effect.[3]

Experiments were made regarding its antiseptic properties, and it was found that when the dermatol was added to a fluid nutrient gelatine, decomposition or bacterial growth was hardly hindered. The same occurs with iodoform, iodol, bismuth-subnitrate, and aristol. The dermatol can take effect only when it comes in direct contact with the germs, and when it is evenly mixed with the nutrient medium. This they accomplished in the following manner:

Gelatine was warmed in a reagent glass until it was just fluid (28° to 30° C.), and with it large amounts of dermatol were mixed. This was then mixed with a pure culture, shaken, and poured on cooled trays. As it stiffened in cooling the dermatol was held in a uniform admixture. The anthrax bacillus, staphylococcus pyogenes aureus, bacillus prodigiosus, bacillus of typhus and of pneumonia, were used. In all of these the growth was stopped.

In the further proving a considerable amount of the dermatol, mixed with a culture of staphylococcus pyogenes aureus, was introduced beneath the skin of a dog or rabbit. As a "control," another culture of some indifferent powder—starch or talc—was similarly introduced beneath the skin of a similar animal. In the latter a more or less extensive abscess appeared within twenty-four hours, while in the animal in which the dermatol was used the skin wound remained absolutely dry and not the least suppuration occurred. When the abscess produced by the staphylococcus culture was opened, washed out with a one-tenth per cent. sublimate solution, and dusted with dermatol, the suppuration ceased, the wound filled with granulations, and was healed in an exceptionally short space of time. The unusually dry condition of wound surfaces, abscess walls, etc., is of importance in that it decreases the fluid media essential to bacterial growth.

Rosenthal[4] seems to confirm the experiments of Heinz. He finds that bacterial growth remains absent when the dermatol is present in large quantity, but that otherwise the results are negative.[5]

With a view to corroborating the above I sent some of the powder to Dr. F. Ferguson, pathologist to the New York Hospital, who returns to me the following report:

"I have experimented with the powder 'dermatol,' which you sent to the laboratory of the New York Hospital, and find that growth of bacteria did not result in any of several tubes of agar and gelatine inoculated with the powder. I found that bacteria of different kinds, pathogenic and non-pathogenic, could be left in contact with the powder as long as twenty-four hours, and again grow when transferred to agar. I found that on mixing equal volumes of dermatol and agar, bacteria grew upon the surface of the mixture, but not as actively as when smaller quantities of powder were used in the mixture."

Rosenthal, however, reports that his positive results were obtained only when he pursued a special course (see original), and it may be that difference in methods leads to this divergence in results. However that may be, we cannot assume that the germicidal properties of the drug are active, and it is not to be thought that it can take the place of our standard irrigating fluids. It is, nevertheless, possible that, as in the case of iodoform, clinical evidence will rate the drug more highly as an antiseptic than would seem warranted by bacteriological experimentation.

In clinical use the reports of a certain number of observers lie before us:

Sackur[1] used dermatol in a series of about one hundred cases in which he would ordinarily use iodoform. These embraced fresh wounds of all kinds, operative and traumatic, ulcers, opened abscesses, fistulæ, etc. In fresh wounds the course ran smoothly. When union was not attempted the surface was covered with epithelium under a dry scab. In sutured wounds the dressing "fell off dry." All fresh wounds healed without reaction, fever, or suppuration. Burns healed very quickly. In non-aseptic wounds, abscesses, etc., the secretion rapidly diminished, nevertheless he could not dispense with moist antiseptic dressings.

In all cases the drug checked the secretion to an astonishing degree, and it rapidly cured the eczema caused by carbolic and bichloride dressings. Large superficial leg ulcers, which had for weeks and months resisted the ordinary forms of treatment, grew rapidly smaller and closed under the dermatol. A considerable amount of the powder, however, seemed necessary, and it was not useful in torpid ulcers which required stimulation. In no case was eczema occasioned.

Glaeser[2] reports on his use of the drug in the clinic for women at Breslau. He employed it in small wounds as well as in those leaving great defects, in perineal and intra-uterine operations, total hysterectomies, etc. It led to quick healing without irritation.

In a case of extra-uterine gestation in which the mass could not be removed, as well as in a very large tubercular peritoneal abscess, he used it in large quantities for weeks without poisonous effect.

He found it less efficacious in the infectious catarrhs of the genital tract, and thinks it of questionable value in tubercular processes.

Rosenthal (loc. cit.) used the dermatol, in his dermatological practice, dry, or in the form of salve or paste, in ulcers of various forms, bubo wounds, balanitis with much secretion, suppurative lymphangitis of the penis, eczema—especially the wet form—and other affections, and expresses himself as greatly pleased with the powder, saying that he thinks that it will find wide employment in dermatological practice. After its use as an injection in a few cases of gonorrhœa, he thinks the results sufficiently encouraging to warrant extended trial.

Von Rogner[3] thinks it "the best dry antiseptic of the day." He has used it in extensive burns of the trunk, and has never observed stomatitis, darkness of the mucous membranes, intestinal catarrh, or other constitutional effects.

During the past two months dermatol has been used in my surgical class at the out-patient department of the New York Hospital in upward of one hundred and fifty cases.[4]

[1] I have very recently learned of two deaths, in the larger hospitals of this city, during the past summer, attributed to iodoform.

[2] For full text see the original article.

[3] This property of being non-poisonous is attributed to its insolubility and permanency.

[4] Berliner klinische Wochenschrift, 1891, No. 29.

[5] He obtained practically the same results with subnitrate of bismuth and aristol.

[1] Berliner klinische Wochenschrift, August 10, 1891, p. 791.

[2] Centralblatt für Gynäkologie, 1891, No. 25.

[3] Wiener Medizinische Presse, August 16, 1891, No. 33.

[4] Not all, however, were followed to ultimate result.

These embrace fresh wounds of all varieties, ulcers, abscesses, burns, and the like, all cases, in fact, in which iodoform is generally employed. It has been used as a dusting powder, sprinkled on in thicker or thinner layers. Until recently I have been unable to obtain a sufficient amount of the drug for use in gauze.

I have thus far been exceedingly pleased with its effect. Fresh wounds were cleansed with a sublimate solu tion of the powder applied beneath a dry or moist dressing. In no case did sepsis occur, and the wounds healed, so far as I have been able to judge, in about the usual length of time. Chronic ulcers, especially those of the leg and foot, closed with exceptional rapidity.

Many of these troublesome cases which had shown but little progress under the ordinary dressings, healed astonishingly fast.

The characteristic decrease in the secretion, spoken of by all authors, has been very noticeable. Surrounding eczema disappeared under one, two, or three dressings. In no case did the drug cause irritation, in no case was the slightest poisonous effect noticed, even when considerable quantities of the dermatol were employed.

In some cases opportunity was offered to compare its effects with those of iodoform. So, for example, in a man with extensive, symmetrical, specific ulcers on the anterior aspect of each leg. On one leg dermatol was used, while iodoform was applied to its fellow.[1]

The ulcers on the leg on which dermatol was employed were healed in less than one-third the time required by those on the extremity subjected to iodoform.

In a patient with burns of the second and third degrees, one portion was treated with dermatol, another with iodoform. Here, again, the new drug showed its superiority.

A man, aged forty, had suffered amputation of the ring-finger at the hands of surgeons outside the dispensary, the wound being dressed in the ordinary way with iodoform and bichloride. He presented himself at my clinic five or six days after the operation, with hand and fingers much swollen, puffy, œdematous, red, from wrist to finger-tips the seat of a profusely weeping eczema. The amputation wound was in perfect condition—it had healed *per primam*, and I was told by the surgeon who did the operation that the eczema was occasioned by the dressing. All affected skin was covered with a fairly thick layer of dermatol, over which plain, unmedicated gauze was applied. At the first change of dressing, on the third day, the parts were dry, painless, practically healed.

Such simple granulating ulcers as those left after Cotting's operation for ingrown nail, healed with exceptional rapidity. On the other hand, I have not found tubercular ulcers to make more than ordinary progress under its use, while it does not seem suited to the torpid mucous ulcers which are deficient in secretion, or to those with exuberant, flabby granulations. In a word, a surface must be in a fairly healthy, granulating condition, and when it does present this the dermatol effects healing in a remarkably short space of time.

Phlegmons, abscesses, carbuncles, and the like must be cleared of sloughing tissue before reliance is placed on the dermatol.

When compared with iodoform, it certainly possesses qualities of exceptional merit. Its lack of odor, and its absolute freedom from poisonous and irritating effects are most valuable features.

It is, of course, more than possible that further use may demonstrate disadvantageous qualities, or curtail the favorable characteristics which have been mentioned. It is to be hoped that in time we shall have presented to us an agent which more nearly approaches the ideal. In regard to this drug dermatol, however, all of the written opinions which I have been able to find are singularly enthusiastic in its praise, and these are sufficient to demand for it an extended trial. I am using it, at present, in my out-patient surgical cases, to the exclusion of iodoform, in all dressings in which that drug was formerly employed, as a powder, in a ten per cent. gauze, in a ten per cent. ointment with vaseline, and in a ten per cent. collodion emulsion, and thus far I have all reason for being satisfied with its effect.

I append a brief comparison between dermatol and iodoform.

a. CONDITIONS IN WHICH DERMATOL POSSESSES ADVANTAGES OVER IODOFORM.

Dermatol.	*Iodoform.*
1. It is not poisonous.	1. It is distinctly poisonous.
2. It is without odor.	2. Its odor is exceedingly disagreeable.
3. It is absolutely non-irritating, it allays irritation.	3. It produces, in many instances, a troublesome dermatitis of the surrounding skin.
4. It can be sterilized by dry or moist heat (this may be of distinct advantage when gauze is employed).	4. This is not the case with iodoform.
5. It seems, at present, to lessen discharge to a greater extent, and to favor epithelial formation to a greater degree than does iodoform.	

b. CONDITIONS IN WHICH IODOFORM[1] POSSESSES ADVANTAGES OVER DERMATOL.

Dermatol.	*Iodoform.*
	1. It is at present somewhat cheaper.
2. There is no reason for believing that it possesses direct effect on tubercular processes.	2. Its anti-tubercular action seems to be (clinically) fairly well established.
3. It is insoluble.	3. It is soluble in alcohol, and in ether.

35 WEST THIRTY-FIFTH STREET.

[1] "Mixed" treatment being given internally.

RECENT MEDICAL JURISPRUDENCE.

BY HENRY A. RILEY, ESQ.,

NEW YORK.

Some New Features in Life Insurance.—Considerable attention is being attracted to insurance matters now, on account of the large defalcation in the Spanish department of the New York Life Insurance Company, amounting to about four hundred thousand dollars it is claimed. As life insurance is pre-eminently an American institution, having received its greatest development in this country, anything which affects its stability is of general interest. It is stated that about a million and a half of policies are outstanding, insuring probably a million persons, for almost three thousand five hundred millions of dollars.

In about a generation this immense sum will be distributed among some millions of beneficiaries, should the companies continue to be solvent. The business has been very successful and profitable thus far, but there seem to be signs that the future will not see the wonderful expansion which the past twenty five years has witnessed. One of the great features of the system is the very large commissions which are allowed to agents for securing business, and it seems probable that a more conservative system of management will require considerable cutting in this item of expense. Another very remarkable suggestion has recently been made, and that is, the abolition of medical examinations entirely. This is a most radical change, and yet it is said that some of the English companies are contemplating such action. It is claimed by them that the mortality tables are based on the experience of one hundred thousand lives, and that the advantage of selection runs out in about five years, and that after that time the insured are no better physically than the same number of persons picked up at random in the streets. There will, no doubt, be a full discussion of this matter before its adoption, and probably few of the companies will feel like abolishing medi

[1] I postpone comparison of their germicidal properties.

cal examinations, even if there should be quite a saving for the time being in medical fees. It seems quite evident, if the medical examiner was deposed, that there would be a general rush of the maimed, the halt, and the diseased to the offices of the companies for the purpose of taking out policies. This would bring a temporary increase of premiums, but most probably would so swell the death payments in a few years that the solvency of even the best companies would be threatened.

It will require very strong proof to show that the average of vitality is preserved when there is no discrimination shown to healthy persons over unhealthy ones at the time of application.

The whole subject of life insurance is so important and so complex that there should be nothing done to endanger popular confidence in the system.

Doctors as Politicians.—The recent legislation in a number of States, which seems likely to elevate the medical profession by requiring a higher grade of knowledge on the part of applicants for licenses to practise, has had the effect of calling to the attention of Maryland practitioners the fact that there is no license law on the statute-book in that State.

The *Maryland Medical Journal* believes in taking time by the forelock, and urges the infusion of medical politics into the caldron which is now beginning to seethe with Republican, Democratic, and Alliance ingredients. It calls upon the profession to insist on the election of a good number of physicians as members of the General Assembly, in order that a proper medical license law may be enacted. It would be well for everyone interested to watch the workings of the New York law, which seems a fair one, and which went into operation in September.

Convict Leases and Prison Management.—There have recently been a number of things calculated to call attention to prison management, and one of the most noticeable is the outbreak against the convict labor system in Tennessee. In this, as in some of the other Southern States, the convicts are leased out to the highest bidder, and are thus made to bring a revenue to the State, although the system is a cruel one and results in a very heavy death-rate. The enormities of convict leases were graphically told by George W. Cable, some little time since, with the result of making him cordially disliked in many parts of the South.

The trouble now is not caused by any sympathy with the convicts, but is the result of the antagonism of free laborers in the Tennessee coal mines, who object to being brought into competition with the convict labor at some of the mines. The revolt was so serious that troops were sent to the scene to preserve order, and bloodshed was only avoided by the promise that legislation would be secured to meet the wishes of the free laborers. In this State charges have been made in the daily papers of gross cruelty in the punishment of prisoners at the Clinton State Prison. The charges are direct and circumstantial, and deserve a careful investigation, although the Superintendent of the State Prisons is reported to consider them beneath consideration.

It has been said, also, that the manufacture of shirts at the Clinton Prison has seriously interfered with the business outside, and the number of convicts employed in this way has been largely reduced.

Suits against the City of New York.—Suits have been brought by Dr. Allan McLane Hamilton and Dr. Rudolph A. Witthaus, against the City of New York, for medical services rendered in the post-mortem examinations of the victims of the Fourth Avenue tunnel disaster. The examinations were made by order of Judge Patterson of the Supreme Court. The amount claimed was $500 in each case, which sum was allowed, but payment refused because there was no fund from which it could be taken. If judgment is recovered, as will naturally be the case, the claims can then be paid out of the judgment fund. Dr. Witthaus recently obtained a judgment of $750 against the city for chemically examining the viscera of Bernard O'Grady, whose death it was suspected had been brought about by poisoning.

Police Matrons.—The Board of Police of this city has shown a strange lack of appreciation of the good points of the law requiring matrons at the police-stations, and the Commissioners have had to be forced into taking action. The latest quibble has been a difference of opinion as to the salary to be paid, and for a time it seemed as if the matter would be indefinitely shelved. An agreement has, however, been arrived at to pay $720 per annum; but the matrons cannot be placed in charge until certain changes have been made in the station-houses. The money for this will not be available until the Board of Estimate and Apportionment makes an appropriation, and this may not be for some time.

One of the so-called health edicts relating to the importation of food products from this country was the prohibition of pork in France. This has now been removed, to the great joy of hog-raisers throughout the country, largely through the efforts of the American Minister, Whitelaw Reid. It is expected that the similar prohibition in Germany will soon be removed.

RADICAL CHANGE IN THE APPLICATION OF KOCH'S LYMPH, ATTENDED BY MARKED SUCCESS—FEVER REACTIONS PREVENTED

By FRANK FREMONT-SMITH, M.D.,

ST. AUGUSTINE, FLA.

THE results of careful study of pulmonary tuberculosis in all stages, under prolonged treatment with tuberculin, lead me to state the following conclusions: 1. The dose of tuberculin is a widely varying quantity, to be determined, with its rate of increase for each case, only by direct experiment. 2. The only therapeutic dose is such a quantity as arouses no reactive temperature, every reactive fever being the expression of an overdose, that is, a poisonous dose. 3. Tuberculin, when successful by fever reactive method, is so despite, not by virtue of, reactions. 4. Tuberculin by non-reactive method acts as a powerful up-building alterative to the tuberculous subject. 5. Cases in all stages of tuberculosis may be treated by non-reactive method without danger.

Observation of numerous cases in Berlin, and especially a study of those in the wards of Leyden, Charité, to which free access was granted me at all hours, led me to conclude, first, that when treated with tuberculin, some cases, though in proportion few, made a definite and continued improvement in general physical conditions, in character of cough and amount of expectoration; second, that weak men and nearly all women progressed unfavorably. Those cases which ultimately gained lost weight during the first week or two weeks of treatment. Such cases were usually men of great native vigor. Of women, who are especially susceptible to tuberculin-induced fevers, among fifty cases but one was improving in the wards of Senator; nearly the whole number were rapidly fading away, their reactive fevers tending to become continuous as treatment progressed. At Friedrichshain, the one hundred charts examined showed that no women with pulmonary forms were improving. Similar results were obtained in the wards of Gerhardt and von Bergmann, and at Moabit Hospital the successful cases shown were men. Among all these cases earlier stages of the disease were numerically well represented, but the induced fevers were exhausting and ruinous to all alike.

Of the disturbing or dangerous effects upon the local lesion, I spoke in my Berlin communication to the MEDICAL RECORD of January 3d.

Although small doses have been mentioned by various writers, they have been employed with the full purpose of obtaining fever reactions, and have been increased

until these were achieved. American observers who have been unsuccessful and have discontinued the treatment, have invariably stated that characteristic reactions were obtained.

The entire absence of uniformity in results with incipient cases in the hands of all operators, and the uncertainty manifested by all as to the class among incipient cases in which success might be expected, suggested a possible error, not in the constitution of the remedy, but in its method of administration, which hitherto has not been adapted to obtain the fullest therapeutic effects with the least expenditure of energy. To produce every second day the ultra-physiological action of tuberculin, as exhibited in fever reactions, disturbs the general equilibrium and disarranges nervous, digestive, and secretory functions, upon whose very quietude and uninterrupted activity, substantial improvement is of necessity based. To employ any medicinal agent on a plan so irrational as that on which Koch's lymph has been used, would condemn our most powerful and valuable drugs, and, as in the case of tuberculin, soon discourage both patient and physician.

Since the proportion of improved cases in foreign and American hospitals was too small, the risk of the venture under the usual methods too great, I determined at the commencement of experiments at Alicia Hospital, St. Augustine, on January 27th, to adopt a plan, not as I am aware until the present time suggested by any observer; namely, to maintain the doses of tuberculin uniformly below the fever reaction line, proposing to employ such increasing dosage as may be borne by each individual without fever, its pain, mental depression, loss of appetite, and wasting of flesh; thus, perhaps, to escape renewed congestions in the diseased lung areas, and especially to retain general conditions for the patient as favorable, at least, as previous to treatment. Results of this plan are shown in the following notes of all cases treated at Alicia Hospital, taken from the records of this institution.

Incipient and advanced cases have been treated. I have endeavored in every instance, although gradually increasing the dose, to retain normal temperature. Women and delicate men in any stage are especially susceptible to the tuberculin fevers, hence the dose has been adapted to their condition. Individuals in apparently the same stage and physical state vary greatly in their resistance to induced fevers. The decided influence which this remedy has exerted in my hands under the gentle, steady pressure of non-reactive doses, has been analogous to that of the iodides—an alterative of well-established power.

Incipient Cases.—Case I.—F——, aged thirty-three; residence, Georgia; one brother and one sister died of tuberculosis; failing for the past six months. On entrance, feeble strength, poor appetite, harassing cough day and night; evening temperature, 99.6° F. to 100° F.; sputum, four ounces daily; bacilli numerous; infiltration of left lung apex down to third rib; moist râles; right apex, slight supra-clavicular dulness. First inoculation, January 27th, one-half milligr.; reactive fevers avoided until the twenty-ninth injection, dose 45 milligr., unexpectedly produced 101.2° F.; the dose was now modified and again gradually increased without reactions until, on April 24th, 85 milligr. were administered. Examination, April 23d, dulness persists; râles are absent; cough slight, none during the night; sputum one to three drachms daily; normal weight, 160 pounds; entrance weight, 136; weight, April 23d, 153; gain, 17 pounds.

Case II.—T——, aged twenty-three; residence in Florida, six years; mother and one brother, twenty-one years of age, died of tuberculosis; coughed for one year; hæmoptysis in January last; unable to work during the past seven months; evening temperature on entrance varying from 99.4° F. to 100.4° F.; night-sweats; area bounded by second and seventh ribs, right side, presents dulness; bronchial breathing, moist râles; bacilli, moderate numbers. First inoculation, February 17th, 1 milligr. During the first eighteen days of treatment maximum temperature was 99.6° F.; for the following fifty-three days the temperature reached 99° F. but five times, its maximum then being 99.3° F.; final dose, April 24th, 60 milligr.; thirty-three treatments administered; sputum on entrance, one ounce daily; after April 9th it never exceeded 4 drachms; weight, February 17th, 144 pounds; weight, April 23d, 164 pounds; râles lessened, otherwise physical conditions unchanged; cod-liver oil, which had been taken for months previous, was continued. Reported by Miss A. Smith, hospital superintendent, June 24th, "Improved after your departure; left hospital in May feeling well." Gain, 20 pounds.

Case III.—Mrs. C——, aged forty-one; residence, Florida; only sister died of tuberculosis, which exists on father's and mother's side; cough began early in October, 1890; dulness on the right side down to the fourth rib; bronchial breathing and râles; left side, slight dulness, supra clavicular bronchial breathing; bacilli in moderate numbers; during ten days of observation before inoculations began, evening temperature ranged between 99.5° F. and 100.2° F.; during these ten days weight fell from 127½ to 125 pounds; sputum one-half to one ounce daily. First inoculation, February 23d, ½ milligr.; reactive fever, 104.5° F.; forty-eight hours later, weight had fallen to 123 pounds; treatment discontinued five days; ½ milligr. repeated; maximum temperature, 99.2° F. From February 25th till March 4th, reactions avoided; patient gained to 125¾ pounds; sixth dose, 1½ milligr., reaction 102.4° F.; eighth dose, 2 milligr., reaction, 102° F.; reactions were successfully avoided during the subsequent treatments, ending April 24th; final dose, 8 milligr.; sputum ranged from ½ to 1 drachm during the last fifty-one days of treatment; April 24th, râles absent, dulness and bronchial breathing continue; weight, 130 pounds. Normal weight, 135 to 140 pounds. No medicine had been administered. Patient called home by illness of mother at end of April; reports on June 14th, "I now weigh 135 pounds, and am feeling stronger every day; seldom cough, sleep well, feel and look like myself, and am just making up my mind that the lymph has probably cured me." Gain, 12 pounds.

Case IV.—Mrs. J——, mulatto, aged twenty-eight, residence, Brunswick, Ga.; brother and all members of father's family died of tuberculosis; cough and failure of strength commenced July, 1890; since that time has lost 25 pounds in weight; right side, dulness, bronchial breathing, moderate moist râles down to sixth rib; dulness down to third rib, left side; evening temperature, 99.2° F.; daily quantity of sputum, 10 drachms; bacilli present; first treatment, March 13th, ½ milligr.; during March maximum temperature exceeded 99.2° F. but once, then reaching 100° F. On April 3d and 5th, following injections of 2½ milligr., temperature rose to 101.1° F.; treatment discontinued five days; patient suffered lassitude, loss of appetite, great depression; treatment resumed with no further indications of reaction until April 19th, when temperature rose to 101° F.; final dose, April 27th, 5½ milligr.; seventeen treatments administered; weight on entrance, 112¼ pounds; weight on April 28th, 122½ pounds; gain, 10¼ pounds; night cough somewhat lessened; quantity of sputum remains the same; physical conditions unchanged, excepting some diminution of râles. Reported June 24th, called home when she was doing very well; a letter from her a few days ago says she is failing rapidly.

Case V.—Mr. G——, aged thirty-one; residence in Florida for past six years; father died of tuberculosis; empyema, opened in May, 1890; six pints of pus removed; continuous discharge, at present two ounces daily, laden with bacilli; subject to frequent fevers; appetite poor; greatly emaciated; scarcely able to walk. First inoculation, February 8th; February 18th, patient reports good appetite for the first time in years; treat-

ment continues without reaction until the fourteenth treatment, 4 milligr. on March 29th, aroused a temperature of 103° F. Patient was greatly prostrated; dose reduced to 2 milligr.; no further reactive fever occurred. The dose on April 22d was 8 milligr.; 26 treatments; discharge reduced to one ounce. Normal weight, 165 pounds; weight on entrance, 126½ pounds; April 22d, 130 pounds. Reported July 7th, from Albany, N. Y., "weight, 130; discharge, 1½ ounce daily; continued gain in strength."

Case VI.—Mrs. D——, aged forty-two years; residence, Florida for past four months; one brother died of tuberculosis; disease followed influenza, January, 1890; has lost 19 pounds in weight during the past three months; dulness, bronchial breathing, moist râles over the whole upper lobe of right lung; slight bronchial breathing at right apex, evening fevers, night-sweats; beginning dose, March 18th, ¼ milligr.; final dose, April 23d, 6½ milligr.; no reactive fevers; expectoration diminished in quantity one-third; weight, March 18th, 115¾ pounds; April 23d, 118¾ pounds; reported June 24th—"Mrs. D—— gained after you left; she is now keeping house and feeling well."

In these incipient cases physical signs and microscopic examination established the diagnosis. The results may be attributed to tuberculin alone, since no other medicines than those mentioned were administered, and the patients were not subjected to climatic changes, excepting as noted. All patients had lived in fair circumstances, and previous to treatment good food had not been wanting; but until inoculations began both appetite and power of assimilation continued greatly impaired. In all but one, improvement has progressed in the two months subsequent to discontinuance of treatment, and this one, a mulatto, being of the mixed race which, it is well known, does not long survive the ravages of tuberculosis, offered gratifying improvement; the immediate decline on discontinuance of the treatment suggests that it had been a powerful support. In all cases râles diminished, other physical signs remained not appreciably changed. Evening temperatures exceeding 101° F. have contra-indicated immediate treatment. Gain in weight:

Case 1.	Gain in weight	from	January 27th	to April 23d,	17 pounds.
" 2.	"	"	Feb'y 17th	to April 23d,	20 "
" 3.	"	"	Feb'y 23d	to June 14th,	12 "
" 4.	"	"	March 13th	to April 28th,	10½ "
" 5.	"	"	Feb'y 8th	to July 7th,	3½ "
" 6.	"	"	March 18th	to April 23d,	3 "

Advanced Cases.—Case I. D——, aged twenty-nine; residence in Florida, seventeen years; half-sister died of tuberculosis; since twelfth year occasional pleurisies; on entrance, sputum six to seven drachms daily; bacilli abundant; evening temperature during the week previous to inoculation, 99.7° to 101° F.; dulness over upper half of right chest; bronchial breathing; medium-sized infraclavicular cavity; dulness over fourth, fifth, and sixth ribs anteriorly, left side; no râles; past six months continued chest pains, frequent pleurisies on both sides; six liquid movements daily for four months; unable to work for past six months; first inoculation February 13th, one milligr.; no rise of temperature above 100° F. until 7 milligr., on February 25th, produced 101.2° F. No further reaction until March 19th, when 22 milligr. produced 101.5° F.; on the 20th, 101.6° F.; 23d, 101.6° F.; treatment continued without reactions up to a dose of 45 milligr. on April 22d. April 23d, râles disappeared; chest pains gone; sputum, two to four drachms daily; one to two daily solid normal movements. Cod-liver oil, taken previous to treatment, was continued. Morphia and bismuth administered for forty-eight hours. Weight, February 9th, 131¼ pounds; weight, February 16th, 128¼ pounds; weight, February 30th, 130½ pounds; weight, April 24th, 140¼ pounds. Gain, 12 pounds since treatment commenced. Reported June 24th, "repeated attacks of pleurisy after he left the bospital; lost flesh until he was down to his original weight."

Case II.—J——, aged thirty-seven; residence in Florida, four months; mother died of tuberculosis; patient has had chest affection for fifteen years; fever and night-sweats for many months; on entrance, left chest dulness, moist râles down to fifth rib; medium-sized cavity at third rib; sputum on entrance, six ounces daily; bacilli numerous; evening temperature, 99.5° F. to 100° F. First inoculation March 4th, 1 milligr.; temperature reached 101° F. on March 19th and 23d. On the 28th and 31st it reached 100° F. Temperature continued below 100° F. during April. On April 22d, 45 milligr. were administered, producing reactive temperature, 100.5° F. Maximum dose on the 29th, 60 milligr., when he is reported to have left the hospital. Normal weight, 170 pounds; entrance weight, 153 pounds; final weight, 157¼ pounds; twenty-one treatments; no medicine administered; reported at standstill, since treatment ceased.

Case III.—L——, aged forty-eight; residence, Florida; dulness over entire left chest; small moist râles over the upper lobe; large râles over the lower lobe; small cavities in the lower lobe; disease followed pneumonia; entrance temperature, 100.8° F.; first inoculation, ¼ milligr., March 14th, increased without reaction until 2 milligr. produced 102.8° F.; dose reduced to 1 milligr.; from April 2d to April 23d the maximum temperature never exceeded 99° F.; last dose, 5 milligr.; eighteen treatments; during first three weeks of treatment, diarrhœa excessive and persistent; during last three weeks diarrhœa checked and improvement was perceptible; sputum on entrance, two ounces daily; during the last week of treatment, ½ ounce daily; normal weight, 132 pounds; entrance, 119 pounds; end of third week of treatment, 112 pounds; end of sixth week, 115 pounds. Reported June 24th, and left hospital soon after your departure, unchanged.

Case IV.— K.——, aged thirty-nine; residence in Florida, two years; no hereditary tendency; cough and gradual wasting for three years; under observation in bed from March 9th until March 27th. From March 14th until March 19th maximum temperature ranged at or above 102° F.; right chest down to eighth rib, dulness, bronchial breathing, numerous moist râles; large infraclavicular cavity; left apex to second rib, marked dulness; bronchial breathing, small râles; sputum, 20 drachms daily; bacilli abundant; first inoculation, March 1st, ⅛ milligr.; on March 27th, ¼ milligr. produced reaction fever, 102° F.; maximum temperature continued between 102° F. and 103° F. until April 10th, when it fell below 100° F., so continuing under treatment until April 24th. As soon as temperature fell to 100° F., doses of tuberculin were again gradually increased, reaching 3½ milligr. on April 24th without reactions. Normal weight, 138 pounds; weight at the beginning of observation, 103¾ pounds; weight at the beginning of inoculations, 99¼ pounds. Reported June 24th: "Still under treatment; dose, 25 milligr.; weight, 103¾ pounds; maximum temperature, 99.5° F. to 100.5° F.; appetite improved; sleeps well; night-sweats occasionally; cough about the same."

Case V.—Miss L——, aged forty-five; residence in Florida for years; no hereditary tendency; hæmoptysis eight years ago; since which time she has gradually failed; cough and wasting of flesh increased since February 1st; dulness and râles over whole right chest above seventh rib; over fifth and sixth ribs anteriorly, indications of a medium-sized cavity; bronchial breathing at the left apex. April 3d, first inoculation, ¼ milligr.; April 23d, three milligr.; April 3d, weight, 112 pounds; April 23d, 115 pounds. Treatment continued two weeks longer. Reported June 24th: "Miss Lindsey calls herself cured. She says she is better than she has been for years."

Case VI.—H——, aged twenty-three; six months in Florida; father and brother died of tuberculosis; failing for the past twenty months; left chest presented moist

râles over the entire surface; entire dulness; large cavity between the second and third ribs anteriorly; right chest, apex dulness and moist râles down to the third rib; high evening temperatures, with profuse night-sweats; contra-indicated inoculation. Patient remained four weeks in bed until evening temperature fell to 101° F. During this time, weight had fallen to 111 pounds; treatment began on April 3d, with ⅛ milligr.; maximum dose, 1¼ milligr.; normal weight, 145 pounds; entrance weight, 116 pounds; beginning of treatment, 111 pounds; April 23d, 113½ pounds. Reported soon after your departure, left the hospital unchanged.

The advanced cases were rapidly failing before treatment began. Climatic influences remained unchanged; in all, appetite improved, decline in weight was checked, and disease was stayed. In the acute cases during treatment there was some slight improvement; in the chronic, decided. No unpleasant, complicating, or dangerous conditions were aroused.

In concluding our brief account of the treatment of tuberculosis by Koch's lymph, fever reactions having been prevented, it may be appropriately mentioned that too much has been demanded of this remedy. Eager hope of rapid cure, not held out by the discoverer, rendered the usually conservative medical mind ready to accept at first what approached the miraculous. The delicacy of lung tissue, with its readiness to inflammatory infiltration and the formation of connective tissue, makes the question of complete recovery with absence of physical signs, one for years to determine. All that can be logically demanded is improvement; a check in the downward progress, a commencement in the building-up. This result, tuberculin employed watchfully and with attention to details, has accomplished. Months may pass or years, yet no patient will find this treatment unsatisfactory, who sees his life bark drifting further away from the fatal eddy. Restoration to perfect physical strength, if achieved at all, must be sought along this same humble, often uneven, path of improvement.

Bar Harbor, July 12, 1891.

A CASE OF CHRONIC INTUSSUSCEPTION—DIAGNOSIS—AUTOPSY.

By CHARLES LEHLBACH, Jr., M.D.,

Newark, N. J.

The following unique and interesting case of intussusception came to my notice, and I report it on account of its pathological and clinical rarity.[1] It is to be regretted that no history was kept of the patient while in St. Michael's Hospital. The period covered is nearly four weeks, and a detailed history would have been of the greatest importance. As it is, I will have to rely upon the memory of the House Physician, Dr. Duffy, in presenting the patient's condition while in that institution.

I. K—— , aged twenty-two, was admitted to St. Michael's Hospital on February 16, 1891. He had been sick ten days before admission. The symptoms manifest during this time and the nature of the onset of his illness cannot be ascertained. The seat of trouble seems to have been the abdomen. No history of injury or strain could be obtained. On admission to the hospital he complained of pains shooting across the transverse colon. He complained of a feeling of swelling in the abdomen which would come and go. No tumor could be felt. Bowels had not moved for some days. A full dose of castor-oil was administered. Subsequently the bowels moved freely, and according to the patient's statement he felt relieved. During his stay in the hospital his condition seems not to have been improved. It became necessary several times during the four weeks to administer castor-oil. A free evacuation seems always to have been the result. As no temperature was taken, I am unable to report whether fever existed at any time or not. Pulse is said to have been always normal when examined, and tongue clean. He was discharged as well on March 11, 1891.

On March 20th Dr. M. Seidman was called to the patient's home. During the doctor's short attendance the following conditions were noticed: The patient vomited at times, but the matters were never fecal. The temperature was about 102° F. mornings and evenings. There was no pain on pressing the abdomen. Bowels moved scantily on enemata of water. The previous history, especially the duration of the attack, somewhat clouded the case, but it was deemed expedient to remove the patient to the Newark German Hospital, in order to facilitate whatever treatment might be thought necessary.

Following is the history while at the German Hospital, where he died about three days after admission.

March 23d.—Temperature, 99⅘° F.; was very restless and complained of pain in stomach; no pain in abdomen on pressure; slight tympanites.

March 24th.—Was seen on this day by several of the visiting staff, among them the writer. The patient had had a slight passage after an injection. He was very restless, with a small and wiry pulse. Slight pressure on the abdomen caused intense pain, especially on the left side. Tympanites very marked. Thighs semi-flexed. The patient's condition did not allow of any extended manipulation, although it was thought a deeply-seated resisting mass could be felt in the left lumbar and left inguinal region. Excepting the peritonitis, no definite conclusion could be arrived at.

March 25th.—Temperature, 98⅘° F.; tympanites increasing. Other signs of acute peritonitis became more marked. The pulse was absent in the afternoon, and the patient died in collapse at 12.15 A.M., March 26, 1891.

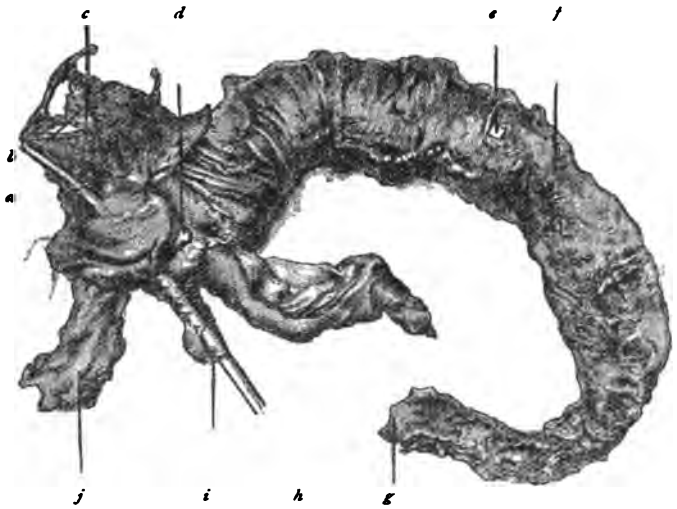
Autopsy.—The autopsy, made eighteen hours after death by the writer, revealed the following: Body: Emaciated. Lungs: Œdema and hypostatic congestion of both lungs; left lung slightly adherent at apex. Heart: Normal. Liver: Slightly congested; otherwise normal in appearance. Kidneys: Normal. Spleen: Normal. Stomach: Filled with yellowish-brown fluid which looked as if it might have been regurgitated from the small intestines; it was not fecal in character. Intestines: Distended with gas and at point matted together by a fresh exudate of fibrin and pus. Near the sigmoid flexure a small perforation of the colon was found, through which about one drachm of fecal fluid had escaped. This perforation was due to a slough of the intestine at that point.

One-half of the transverse colon and the greater portion of the descending colon presented the appearance of a hard, round, smooth tumor. It was found to be an intussusception commencing in about the middle of the transverse colon, and terminating at the sigmoid flexure two or three inches below the point of perforation of the outer layer. The mesentery of the duodenum was drawn into the invaginating intestine, binding down the duodenum firmly to the opening caused by the invagination. In the accompanying reproduction of a photograph taken by the writer, a catheter is passed through the duodenum. The portion of the duodenum which was bound down was a few inches from the pylorus. (The stomach was removed in the ordinary way. There is no intestine missing between that organ and the upper cut end of the duodenum, as seen in the cut.) At the beginning of the intussusception the bowel enclosed was in a semi-strangulated condition. The cæcum and vermiform appendix formed part of the invaginated bowel. The invaginating intestine measured about twenty inches, which would make about forty inches invaginated.

[1] Through the kindness of Dr. M. Seidman, who attended the patient for a short time in private practice, and of Drs. Duffy and Fleger, House Physicians of St. Michael's and the German Hospitals, respectively, I am able to present a fairly accurate history of the case.

It seems probable that the invagination commenced at the ilio cæcal valve.

In the above case, no matter how interesting the final, the real importance is to some extent lost by the incompleteness in the history of the first stage of the affection. However, it seems, even from the scanty history which could be gathered concerning the first five weeks of the case, that up to the time at which Dr. M. Seidman first saw the patient, we have had to deal with a purely mechanical condition of the intestine—an invagination coming on slowly, and not causing sufficient œdema, for at least a period of fifty days, to cause complete occlusion of the lumen of the intestine or to produce gangrene. If we can lay any stress upon the before-quoted statement of the patient, when he complained of a swelling which comes and goes, it seems that the intussusception was not a progressive one, but that there were periods when the invaginated bowel was partially withdrawn from its invaginating sheath.



a, Cut end of duodenum, a few inches from pylorus; *b*, Catheter; *c*, Mesentery spread out showing its entrance into invaginating intestine; *d*, Beginning of intussusception; *e*, Perforation; *f*, End of intussusception; *g*, Rectum, a few inches from anus; *h*, Ilium; *i*, Duodenum (catheter passed through it); *j*, Pancreas.

Progress of Medical Science.

Chronic Interstitial Myocarditis.—According to Drs. Bard and Philippe, in interstitial myocarditis moderate hypertrophy of the heart is a constant phenomenon, with dilatation of its cavities, particularly of the left ventricle. On section, the color varies according to the degeneration of the muscle. The thickness of the ventricular wall is not uniform; it is more especially thin at the apex. The interstitial change is visible to the naked eye in lines or plaques. The papillary muscles are particularly affected. Whenever cardiac hypertrophy is present with no valvular disease, myocarditis should be thought of. Microscopically, the patches of sclerosis are made up of bands of fibrous tissue, and the muscular elements are atrophied. If the process is rapid, cellular elements predominate. In the plaques, the vessels show a periarteritis; elsewhere there is no constant change found in them. The authors do not believe the disease to be of vascular origin, for the inner coat of the vessel is healthy. In the other viscera the effects of chronic congestion are seen. Many confound this interstitial myocarditis with the sclerosis set up by vascular disease. In the senile heart like changes arise, due to progressive obliteration of the small arteries. As to atheroma affecting the large branches of the arteries of the heart, most often one of the chief trunks near its origin is involved, from which a true angina pectoris may result. Rarely a branch may be completely obliterated, giving rise to necrotic foci. This interstitial myocarditis is not due to hypertrophy the result of valvular disease, for the latter is seldom present. Nor is it the outcome of renal disease, for in purely primary forms of nephritis this diffuse interstitial myocarditis is never seen. Nor is it due to diseases of the lungs, for then the right side of the heart would be chiefly affected. It is really a primary myocarditis. The changes in the muscular fibres are degenerative, without any signs of inflammation, whereas those in the interstitial tissue are active. Thus the changes in the latter are primary. In the course of infective diseases inflammatory lesions are apt to take place in the interstitial tissue, and these may become chronic. Two sets of agents may set up this inflammatory sclerosis of the myocardium: 1, intoxications from alcohol, lead, gout, etc., and, 2, infective diseases—enteric fever, diphtheria, pyæmia, eruptive fevers, syphilis, though here the pure interstitial myocarditis must be distinguished from the sclerosis due to syphilitic endarteritis and tubercle. Rheumatism, which may in any of its forms set up myocarditis, occupies as it were an intermediate position between these two classes of diseases.—*Revue de Médecine.*

The Bacteriology of Glanders.—From a careful study of this subject Dr. Finger, of Vienna, has arrived at the following conclusions: 1. Successive local injections of the bacilli of glanders into animals susceptible to the poison produce with each injection symptoms of gradually diminishing virulence—that is to say, the first injection only produces the typical nodules, the later ones causing an abortive type of the disease. 2. The constitutional symptoms of glanders after intravenous injection of virulent cultures produces an incomplete local immunity, and an abortive course after subsequent local injections. 3. Intravenous injection of virulent cultures quickly causes death in some animals—sometimes in a few hours; in such cases post-mortem examination fails to discover any local manifestation of the disease. 4. Intravenous injection of a sterilized culture of the bacilli of glanders produces in rabbits an immunity against the infection from pure cultures which lasts from three to six weeks. Local manifestations, however, occasionaly appear, these being of an incomplete nature and not followed by any constitutional symptoms. At the end of the above-named period, however, the injections are followed by a typical and rapidly fatal disease. 5. Rabbits which have survived an ordinary attack of the disease enjoy afterward complete immunity. Repeated local injections simply produce a transitory local affection, constitutional symptoms never following. 6. This immunity does not appear to be able to be tranferred to the offspring—that is to say, does not become hereditary. 7. The injection of sterilized cultures of the bacilli or of their chemical products produces poisonous effects, generally mild in character, but sometimes so severe as to kill the animal. Post-mortem examination reveals the same lesions as are seen in the primary disease, localized mainly in the portal system. 8. Injections of sterilized cultures produce an immunity, though not always complete, against intravenous injection of virulent cultures. 9. If sterilized and virulent cultures are injected at the same time, the disease produced is exceedingly rapid and fatal. 10. The bacilli when introduced into the tissues of susceptible animals exhibit great activity, multiplying rapidly, growing into long threads, and apparently defying the action of the phagocytes. 11. In the tissue of non-susceptible animals, such as white mice, the bacilli show no signs of activity; they rapidly die and disappear. There seems, however, to be no intervention of leucocytes. 12. In rabbits which have been rendered artificially proof against the poison the bacilli seem to take longer in disappearing. There is rapid collection of leucocytes, with some exudation. 13. The rapid death of the bacilli in the white mice is probably to be referred to an active power of destruction possessed by the organism. 14. The slower disappearance in other animals is to be re-

ferred to the action of the leucocytes, which appear to play a special *rôle*, as described by Metschnikoff under the term of phagocytosis. But, in addition to this, Dr. Finger considers that the fluid of the tissues themselves play a prominent part in the destruction of the microbes.—*Wiener Medicinische Wochenschrift.*

Jaundice in Childbed.—Dr. Labusquière relates the following case. He attended, in December, the confinement of a married woman of emotional temperament. The catamenia were always painful, and associated at their commencement with sharp hypogastric pains and marked anæmia. Attacks of urticaria were frequent. She burst into tears on one occasion because the doctor called and saw her before she had time to adorn herself like a fashionable convalescent. Labor was lingering, and the forceps was applied under chloroform. She manifested extreme alarm when informed that the use of instruments and chloroform was necessary. The child was saved. On the second day the patient was observed to be jaundiced. There was no pain in the hepatic region, but the gall-bladder was very tender on pressure. The milk, as well as the urine, contained biliary pigments. The jaundice subsided within a few days; as it disappeared the patient was troubled with severe itching of the skin and a mild attack of urticaria. The patient made a good recovery, and was able, after the cessation of jaundice, to suckle her child. Dr. Labusquière refers to the icterus of menstruation noted by Senator and others. Pilliet has recently written on the liver in eclamptic cases, and jaundice occurring in puerperal eclampsia is an extremely grave symptom. In Labusquière's case the jaundice was simple. The lingering labor might have involved much disturbance of the circulation in the liver. The chloroform might have played some part in causing the complication, though not quite two ounces were used for a long forceps delivery. It appears most probable, however, in the author's opinion, that mental agitation was the cause of the jaundice. Emotion may set up vaso-motor disturbance in the liver and consequent excessive secretion of bile. On the other hand, it may act, as Potain believes, by causing spasm of the muscular elements of the bile-ducts. The patient had been a spoilt child, and her health was permanently enfeebled by severe attacks of several febrile disorders in infancy.—*Revue Obstétricale.*

The Hypodermic Injection of Camphor.—The employment of camphor hypodermically in solution in oil, alcohol, or alcohol and ether, is much more general on the Continent than in England. German and Russian practitioners esteem it a valuable method of treating symptoms of impending collapse. Dr. Alexander, of Berlin, has published a paper giving the results of an extensive series of observations made during the last two years on the effects of hypodermic injections of oleum camphoratum (composed of one part of camphor to nine parts of olive-oil) in a large number of cases of disease of the lungs. The dose given was fifteen minims once a day. As the effects of camphor are cumulative, it was found that four daily injections were as much as could usually be borne without some unpleasant effects, such as headache and restlessness at night. After an interval of a week, however, one more injection could be given without causing any unpleasant symptoms. Phthisical patients seemed to bear continued treatment better than others, and its results in the last stage of phthisis were very valuable, the night-sweats, the irritating cough, and the expectoration being diminished in a remarkable manner, even the first dose effecting a very noticeable improvement in the patient's condition. In hæmoptysis the method also proved very useful, patients being enabled to get about again without fear of a recurrence more rapidly than under ordinary methods. Camphor injections administered in bronchitis increased the secretion at first, and afterwards caused it almost to disappear. They did not seem to be of much use when there was also emphysema. In pneumonia their value was especially marked in weakly individuals or in those with cardiac disease, and they cut short follicular tonsillitis and acute coryza. It was found that in some cardiac cases, where digitalis had ceased to be of benefit, after a few camphor injections, it could be again given with good results. These injections must, of course, be given to children only in very small quantities, but no effect appeared to be produced on the infants of mothers who were being treated by camphor injections for catarrhal pneumonia. —*Berliner klinische Wochenschrift.*

Atrophy of the Mucous Glands of the Stomach.—Our knowledge of the pathology of diseases of the digestive tract has received many important additions during the last few years, but it is still by no means complete, and compares unfavorably with what we know of the cardio-respiratory apparatus. This is due to some extent to the comparatively few diseases of the stomach and intestines which are met with in this country. In the East, however, intestinal troubles are as frequent and multiform as chest complaints are in our country. Under the term "tropical diarrhœa" are included probably many different diseases of the intestinal tract. One of these, known as "sprue," has recently been shown to be due to an atrophy of the mucous glands of the small intestine. According to Professor Nothnagel, atrophy of the glands of the stomach is not such a rare disease, even in Europe, as is generally supposed. He records the case of a man aged forty-eight, who for some time had been complaining of increasing anæmia, loss of weight and appetite. The temperature was also somewhat raised when the patient first came under notice, but was brought down to normal by the use of quinine. On examination, the abdomen was sunken, and in the inguinal region the glands were rather large, but nothing further abnormal could be detected in any of the organs. There was occasional vomiting. Examination of the vomited matters demonstrated that there was a deficiency of hydrochloric acid in the contents of the stomach; no sarcinæ were found. Professor Nothnagel made a diagnosis of atrophy of the mucous membrane and glands of the stomach, and founded it on the following grounds: The patient had suffered for some years from loss of appetite, this being the chief symptom of which he complained, and, as just stated, the gastric contents were found to be deficient in free hydrochloric acid. It is true that this is also the case in carcinoma of the stomach, the condition which the disease now under consideration is most liable to be mistaken for. This deficiency, however, is by no means pathognomonic, though it would naturally be most marked when the glands of the stomach were much affected. In this case no tumor could be detected in the region of the stomach; there had been no pain, and until shortly before the patient came under notice there had been no vomiting. Taking the time the disease had lasted into consideration, with these symptoms, cancer of the stomach had to be excluded. Malaria was also improbable, as there was no swelling of the spleen. Professor Nothnagel remarks that there are several forms of the complaint. In one the glands as well as the mucous membrane completely disappear, and this may often occur together with a scirrhosis of the organ. In another form the whole thickness of the stomach is atrophied, and its walls become transparent and as thin as paper. In such conditions the submucosa as well as the mucosa will be found to have disappeared. In a third form, which is the most common, the atrophy of the glands follows upon a gastric catarrh. The chronic inflammation leads to an increase of connective tissue; this gradually contracts around the glands, and so destroys them. In this way retention cysts are sometimes formed, as in the kidney. As regards the grognosis, this is naturally grave, as little can be done to prevent the spread of the disease. The treatment consists in the administration of hydrochloric acid and pepsine.—*The Lancet.*

Laparotomy for Wounds of the Liver.—At a recent meeting of the Paris Société de Chirurgie, Dr. Terrier spoke on laparotomy for wounds of the liver and cited two cases. One was that of a hard drinker who received in a quarrel a stab of a knife in the abdomen. Laparotomy was performed and a cirrhotic liver was exposed. An attempt was made to suture the wound, but the ligatures tore through the substance. The hepatic wound was subsequently plugged, and the abdominal incision closed. The patient died from peritonitis, but all bleeding had been effectually arrested. The other case was that of a man who had a wound of three inches in length in the liver. This wound was sutured, but another which had escaped notice caused death by hemorrhage. Dr. Terrier maintains that wounds of the liver are not inaccessible to surgical intervention, and that life can be saved by properly examining the organ, so that no wound escapes observation.

Indications for Trephining.—Dr. J. B. Deaver gives the following indications for trephining: 1. Simple depressed fracture with or without brain symptoms. 2. Compound depressed fracture with or without brain symptoms. 3. Impact fracture, simple or compound, with or without brain symptoms. 4. Comminuted fracture, simple or compound, with or without brain symptoms. 5. Compound fissured fracture with depression of bone without brain symptoms. 6. Compound fissured fracture with depression of bone with brain symptoms. 7. Compound fissured fractures with depression of bone and without brain symptoms in which there is bleeding through the fissure or fissures. 8. All punctured, incised, and gunshot fractures.—*Annals of Surgery.*

Urethane in the Urine.—Dr. Rademaker gives the results of his examination of large quantities of albuminous urine. He has always found present in such urines a crystalline organic compound soluble in water, ether, chloroform, alcohol, and benzol, and almost insoluble in petroleum ether. This compound is isolated by evaporating several pints of albuminous urine to dryness on a water bath, and extracting the residue with ninety-eight per cent. alcohol, and filtering. The alcoholic solution is then allowed to evaporate at a low temperature. The oily residue is treated with dilute sulphuric acid, and extracted with ether, and the ether allowed to evaporate spontaneously. The residue was found to contain urethane in an impure state. By further treatment the impurities were got rid of and the substance deposited in crystals. Normal urine, on being treated in the same way, did not yield a trace of urethane; but if an alcoholic extract of such a urine was evaporated at a high temperature, urethane was always formed. Dr. Rademaker is of opinion that in the presence of this substance, which is a powerful narcotic, is to be found the explanation of uræmic coma.—*American Practitioner.*

The Mechanism of Immunity from Infection.—Drs. Emmerich and Mastbaum have published an article on the cause of immunity from infectious diseases and their treatment, especially of swine erysipelas, and a new method of protective vaccination for it. Emmerich published in the year 1886 his doctrine that the cause of immunity from infectious diseases is a modification of the chemical process going on in the cells, so that the new chemical compounds formed act as microbe-killers without doing any harm to the cells themselves (*The Lancet*). In consequence of the results of a series of experiments, Emmerich concluded that the antibacterial poison acts destructively on all the microbes within a few hours after their introduction into the organism. The publication of this doctrine having met with a good deal of opposition, he repeated his experiments, and again arrived at the same result, showing that the explanation of immunity from infectious diseases proposed in 1886 was justified. Granted the correctness of this, it follows that extracts from the tissues of any animal enjoying immunity are remedies against the corresponding infectious disease. Further experiments are now reported by Drs. Emmerich and Mastbaum, which show that an extract from the various tissues and the blood of rabbits, which have been made proof against swine erysipelas, is an excellent remedy for the disease, and that a hypodermic injection of the extract can serve as a rational protective inoculation. A rabbit was inoculated by having injected into the posterior auricular vein the fifth of a cubic centimetre of a fresh broth culture of swine erysipelas, diluted with fifty times its volume of distilled water. In the course of the following week or two a series of hypodermic injections of the same liquid was administered. For the purpose of preparing a liquid extract suitable for therapeutic or prophylactic purposes, the organs of the rabbit were cut up and submitted to a pressure of from three hundred to four hundred atmospheres, and the expressed juice filtered into sterilized bottles. A large number of white mice as well as rabbits were now inoculated with the swine erysipelas, and at the same time, or very shortly afterward, an injection of the liquid extract was administered to some of them. These remained alive, while all the others—that is to say, those which had not received an injection of the liquid extract of the organs of the infected rabbit—succumbed. Other experiments were carried out by which it was shown that this same liquid extract is capable of conferring immunity from the disease. Further experiments were made which showed that most of the bacilli were destroyed in six hours, and that in eight hours all were dead, or at least incapable of multiplication, but that the liquid extract produced extremely little effect upon the same bacilli outside the organism, so that the presence of living cells is evidently necessary for the destructive effect of the liquid extract to manifest itself. Another interesting result obtained was that bacilli taken fresh from the body were very much more active than their cultures in broth.

Employment of Exalgine in Infants.—Dr. Moncorvo has published the following *résumé* of his observations: 1. The marked activity of exalgine as an analgesic has been well demonstrated in twenty-one different children varying from one to twelve years of age, in whom it was administered in various painful affections. 2. In all the children the medicine was well borne. 3. None of the complications, such as ringing of the ears, nausea, and dizziness, sometimes stated to have been observed in adults as a consequence of exalgine, were noted. 4. Exalgine was employed at first in the dose of three-quarters of a grain daily, gradually increasing up to five grains. 5. Since exalgine is not disagreeable to the taste, it was given to most of his patients in substances applied directly on the tongue, while in some it was suspended in diluted wine. 6. Exalgine exceeds antipyrin in activity, and the same effects may be expected from it as might be looked for from a dose of antipyrin five times as large.—*Bulletin Général de Thérapeutique.*

Stricture of the Duodenum.—According to Dr. Boas these strictures fall into two classes, for they either lie above or below the orifice of the ductus choledochus. The former resemble clinically, and cannot be diagnosed from, stenosis of the pylorus, whereas the latter can almost always be definitely localized. The signs most to be relied upon for the purpose are the constant presence of bile or bile-stained chyme in the stomach, the concomitant presence of pancreatic juice mixed with the bile in the stomach, the presence of a considerable amount of indican and of acetone in the urine, and, lastly, the clayey condition of the stools. Special attention is drawn to the importance of testing the contents of the stomach in these cases for pancreatic juice. Where such is absent the pancreatic secretion is probably arrested, or the duct blocked, and the stricture is not unlikely caused by some affection of the pancreas.—*Deutsche medicinische Wochenschrift.*

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THE PATHOLOGY AND TREATMENT OF PUERPERAL ECLAMPSIA.

IT is not long since the subject of puerperal eclampsia was ably discussed before the New York Academy of Medicine, and the views at that time expressed were laid before our readers. But it cannot be said that positive conclusions have yet been reached regarding this important topic, and we believe that the discussion on puerperal eclampsia which took place before the British Medical Association last July will interest our readers.

Dr. A. L. Galabin, of London, opened the debate. He showed that there was a pretty general uniformity of belief that the convulsions are due to some kind of renal impairment. But he showed that this does not quite solve the problem, since it is necessary to know what causes this renal disease. The experiments of Dr. Blanc were cited as indicating that in the urine of eclamptic patients there is a specific bacillus which, when cultivated, causes convulsions in some lower animals. Dr. Blanc thinks that this bacillus causes not only the nephritis, but also the convulsions directly. Bearing on this point Dr. Byers cited the investigations of C. Leyden. This observer examined the kidneys of three fatal cases in which there was eclampsia associated with albuminuria, and found "the kidneys large and pale, the cortex yellowish and dull. Microscopic examination showed a very extensive loading with fat, especially in the tubuli contorti; to some extent also in the glomeruli, and in the Malpighian capsules. The fat was distinctly present in large drops." When the kidneys had remained for a time in spirits the fat in great part disappeared, and then the organs, on microscopic examination, appeared to be normal, and accordingly he infers that this fatty condition is not a degeneration, but an infiltration. His view is that such morbid conditions are due to a prolonged arterial anæmia. He thinks it also explains the rapid recovery that so frequently follows delivery. Further, he regards as causes the changed conditions of pressure which affect the abdomen or the effluent urinary organs.

Dr. Auvard's view, that eclampsia is the result of a "strike" on the part of the organs of elimination, especially the kidneys, no doubt represents a truth, but hardly goes deep enough to be called a scientific explanation.

The same may be said of the theory of Stumpf, that under certain circumstances a nitrogenous substance of a toxæmic nature—it may be acetone or a closely allied body—is developed, which in its elimination irritates the kidneys and so causes a nephritis.

It seems that we do not know, as yet, more about the pathology of eclampsia than that there is some convulsive poison thrown into the blood, either through renal disease or infection, or both.

The subject of the therapeutics of eclampsia is more interesting, though here also no great unanimity of opinion was reached. According to Dr. Auvard the mortality from no treatment at all is only twenty-five per cent., while that following active interference is thirty-one per cent. Nihilist therapeutics should make a note of these figures. Dr. Galabin, however, gives the percentage of mortality at Guy's Hospital, under venesection, as thirty per cent., while under the use of chloroform it was 20.5 per cent. These figures, however, do not do justice to venesection, since they apply to the period when antisepsis was not used. Dr. Galabin himself favors venesection in certain cases, especially venesection in large amount (forty ounces). Auvard's mortality with venesection was thirty-five per cent. Dr. J. G. Swayne, in an experience with thirty-six cases, found venesection the most efficacious remedy, chloroform and chloral next, and delivery third. Most of the other speakers recommended chloral and chloroform, and venesection in plethoric cases. Little reference was made to the use of morphine, or hot baths, or pilocarpine, and on the whole we should say that English physicians depended chiefly on the chloral-chloroform treatment. The morphine treatment, which may be considered especially an American one, is evidently but little used.

THE VIRCHOW TESTIMONIAL.

THE celebration of the seventieth birthday of Virchow, at Berlin, on Tuesday last, was one of the events in medical history which points a moral for honest scientific work and accentuates the crowning glory of a long and distinguished career. It falls to the lot of few indeed to be the recipient of honors thus worthily bestowed, and to realize the appreciation of such a widespread constituency of learning, talent, and power. The tributes to his worth were those which even his Emperor might have envied, coming as they did from every portion of that higher world of science, thought, and learning in which he himself was a recognized leader and king. It is a pleasant task for his medical brethren to congratulate him on the event, and share with him, even indirectly and collectively, the honor of a common brotherhood in science. A salon in the Kaiserhof was handsomely decorated for the occasion, and seated in it Virchow received the good wishes of thousands of his friends. There were present nearly all the prominent men of science in the city, while letters of congratulation, telegrams, and cablegrams focussed kind remembrances from distant portions of the globe.

At noon a birthday book, compiled by a number of Virchow's former pupils, was placed on sale, and at the same time one of the finest streets in the city was rechristened Virchow Strasse. The Professor's birthday was also made the occasion for a demonstration, in a mild and amiable sense, upon the part of the Freisinnige party (Progressists), now known as the Independents, of which section of the German Liberals Virchow has always been a recognized parliamentary leader.

During the course of the day Herr Richter, at the head of a deputation of the Freisinnige party, presented the Professor with a number of presents. At about the same time Mayor Forckenbeck presented Virchow with the deeds conferring upon him the freedom of the city of Berlin. A gold memorial medallion was also presented to the Professor by a committee of his medical and political colleagues, and bronze copies of it were given to every member of his family, and were sent to every scientific institution in Germany with which Virchow has at any time been connected.

But the best of all is that Virchow is hearty and well, and is still working with as much spirit and interest as when, twenty years ago, he first won his membership to the Academy of Sciences. Let us hope that his life may be prolonged many a year, and the rounding of his career may be yet fuller of those good works by which he has already made himself so famous. The medical profession of America sends its greeting accordingly.

THE NEED OF ASEPTIC RIVERS.

The rivers of New Jersey and New York are becoming a source of suspicion and alarm instead of being an inspiration to pleasant fancies and successful agriculture. The Passaic, about which poets might have sung, if poets had any chance in New Jersey, is, we are told by that stern censor of our fluvial treasures, *The Sanitarian*, "well known to have served the double purpose of being the common receptacle of the sewage, and the source of the potable water, of one hundred thousand people, more or less, for many years."

The glorious Hudson also is said to supply to the inhabitants of Albany, attenuated solutions of the sewage of Troy, until Albany has become celebrated as "a fever-hatchery." As for the Croton, no one dares speak a kind word for it, for every person in New York with a diarrhœa thinks sadly of that poisoned stream. Verily the rivers of to-day may be beautiful or not, but they must be clean or they will not be tolerated. The bacteriologist with his culture-tubes must endorse a river as aseptic before its beauties can be sung or its waters drank. It is temporarily comforting, however, in this connection to know that by the latest analysis the Croton is found to be free from nitrites. Long may it thus flow.

THE EMPEROR'S EAR.

A *Sun* correspondent, writing from Berlin under date of October 4th, says the chronic affection of the Emperor's ear has developed a strong tendency to disturbance of temper. This may in a measure be true, but of far greater importance is the danger to life itself in these cases. Indeed, examples of a fatal termination are to be expected in a considerable number of instances, occurring from childhood to beyond the active period of life; and it is, therefore, a matter of the utmost surprise that, in a personage whose life is of such importance to Germany, a disease of this kind is allowed to progress unchecked. The frequent exacerbations to which, it would seem, his majesty is subjected from exposure, and colds arising therefrom, may at any time be followed by an extension of the aural inflammation to the brain. The MEDICAL RECORD has on former occasions called attention to this possible complication, both on account of the patient's important social and political position, and the possible effect of neglecting a disease of such a treacherous character. It seems like living again in the dark ages to read of the danger to which the young Emperor of Germany is exposed for want of that surgical treatment to which chronic suppurative otitis is now known to be amenable. Sexton, an American authority on the ear, who cites in his book the cure of many similar cases, calls attention to the fact that the operative treatment for the relief of purulent affections of the ear originated in the very country of which the distinguished patient is emperor.

THE SHIP SURGEON.

Life on the ocean wave is less poetical and attractive to the medical man whose life-work is on shipboard than even he himself thought it would be when he entered it from necessity, and even the one who joins a ship's company from choice finds it disappointing in many respects. It is not altogether an easy life, and now to add to his hardships the Massachusetts Supreme Court has handed down an opinion making the surgeon, and not the company which employs him, the responsible party, and the one against whom action is to be brought by a passenger believing himself to have been maltreated *en route*. If the patient deems himself to have been treated for his ills, injuries, or infirmities in an unskilful or careless manner he must now sue the surgeon for damages, and not the company by whose vessel he was being carried. The opinion reads:

"The law does not put the business of treating sick passengers into the charge of common carriers. The work which the physician or surgeon does in such cases is under the control of the passengers themselves. It is their business, not the business of the carrier. They may employ the ship's surgeon or some other physician or surgeon who happens to be on board, or they may treat themselves if they are sick, or may go without treatment if they prefer; and if they employ the surgeon they may determine how far they will submit themselves to his directions and what of his medicines they will take and what reject, and whether they will submit to a surgical operation or take the risk of going without it."

In one respect this ruling of the Massachusetts Court raises the standard of the ship's surgeon, taking him from the rank of common employee of a company and making him the equal of his land-lubber brother—a sovereign capable of suing and of being sued.

THE BIOLOGICAL TEST OF URINE.

Professor Semmola, of Naples, has proposed an addition to our present clinical methods which has at least the merit of novelty. He advises that in various acute diseases the urine be tested not only chemically but "biologically," *i.e.*, that specimens of it be injected into dogs, guinea-pigs, or rabbits, in order to determine the degree and kind of its toxicity. This biological test can, he thinks, be used by the clinician, and will throw light upon the course of the patient's disease. Bouchard has shown that the urine possesses different degrees and modes of toxicity in different diseases, this being due to the presence of leucomaïnes, ptomaïnes, and various other

products of tissue and microbic activity. M. Semmola seems to think, so far as his written contribution shows (*British Medical Journal*, September 19), that the animal experimented upon in any given case will reproduce some of the symptoms of the patient's disease. We cannot better illustrate this fact than by reproducing the account of one of two cases which he describes. This was a case of fibrinous pneumonia following influenza; and Professor Semmola states that while the specific inflammatory process successively invaded new zones of pulmonary tissue, there supervened suddenly eclamptic and tetanoid symptoms which made the medical attendant suspect the onset of infective cerebro spinal meningitis. The condition of the patient was most serious: a temperature of 40.07° C.; pulse 125, respirations 55; fluid yellowish-green expectoration, profuse sweating, etc.; in short the classic picture of a most violent acute infection. The doubt as to the diagnosis was fully warranted, and it will readily be understood of what importance that was relatively to prognosis and treatment. Semmola did not, however, feel justified in accepting without much reserve the diagnosis of cerebro-spinal meningitis, and before giving his opinion he caused experiments to be made in the laboratory of the Clinical Institute on the biological analysis of the urine which the patient had passed in the last twelve hours. The experiments were conducted by Dr. Traversa and Dr. Falcone.

The result of that biological analysis was as follows: Urine deep yellow in color, clear, acid, specific gravity 1.020, containing no chemically appreciable pathological elements, no uroerythrin, biliary pigments, or ethyl-diacetic acid. The injection of 5 c.c. of this into a guinea-pig weighing 250 grammes, and of 10 c.c. into a rabbit weighing 1,050 grammes, was immediately followed by general tremors, alternating with tonic convulsions and extreme dyspnœa, exactly resembling the clinical symptoms and convulsions seen in the patient, and clearly showing that part of the dyspnœa, the severity of which was certainly disproportionate to the extent of the pneumonic process, was of bulbo-paralytic origin. The professor no longer hesitated as to the diagnosis, but declared that the convulsions did not indicate an attack of cerebro-spinal meningitis, but simply a most acute intoxication, due to the formation of new special ptomaïnes, in that great and mysterious bio-chemical laboratory of which the human organism, when attacked by influenza, is the seat.

Iodide of sodium was thereupon given, and the patient recovered.

The story of the other patient was one of much the same kind.

M. Semmola is a professor in the University of Naples and a senator of the Kingdom of Italy, and his biological experiments are interesting. But the train of reasoning which he offers to us seems very transcendental, and one is tempted to exclaim, after a careful perusal of the senator's paper: "In the name of the Prophet, Bosh!" We do not wish to do our esteemed colleague injustice, however, and it may be considered that the above exclamation is not officially made. We will wait until he has published his experiments in full, and add in justice to him the following paragraph, with which he concludes his article:

There are, he says, two indispensable conditions for attaining all the clinical advantages which may be looked for from biological analysis: 1. The researches should be carried out by assistants thoroughly versed in pharmacological experiments, especially those concerning the nervous and muscular systems. 2. The experiments should be begun with small doses of urine (always having regard to the body-weight of the animal), because in acute infective diseases the organism sometimes gives rise to the formation of most powerful poisons, with regard to which it would be impossible to obtain a precise knowledge of the clinical symptoms of intoxication produced by them, unless one proceeded step by step. Lastly, the reader need hardly be reminded that the total quantity of urine passed in the twenty-four hours should be taken into account wherever it is possible to do so.

News of the Week.

American Orthopedic Association. — The following officers were elected for the ensuing year: *President*, Benjamin Lee, of Philadelphia; *Vice-Presidents*, R. H. Sayre and H. L. Taylor, of New York; *Corresponding Secretary*, Royal Whitman, of New York; *Secretary* and *Treasurer*, John Ridlon, 337 West Fifty-seventh Street, New York.

American Public Health Association.—The nineteenth annual meeting will be held at Kansas City, October 20 to 24, 1891. The Local Committee of Arrangements announces that all the Railway Passenger Associations of the county, have granted a one and one-third fare rate for the round trip on the usual certificate plan. The delegate must procure a certificate of attendance from the agent at the starting-point by paying full fare to Kansas City, and then have the certificate of attendance signed by the proper officer of the Association at Kansas City. This certificate will then procure return ticket for one-third fare. All the leading hotels of Kansas City will give special rates to delegates. Arrangements are being perfected for an excursion into Kansas as one of the features of the meeting. Further information as to the meeting may be obtained by addressing Dr. E. R. Lewis, Chairman, or Dr. Joseph Sharp, Secretary, Local Committee of Arrangements, Kansas City, Mo.

An Office Swindler.—Medical men of New York are hereby notified to beware of a powerfully built man with well sunburned face, mustached, who calls himself an engineer, displays considerable knowledge of steam engines and of maritime and custom-house matters; claims to bring a box of curios from South America or other countries from a physician's old patient whose name he obtains, as well as that of the physician upon whom he calls, by a process known to himself and confederates only.

Dr. Frank W. Reilly, of Chicago, has been appointed Secretary of the State Board of Health of Illinois in place of Dr. Rauch, resigned. Dr. Reilly was once a doctor, but of late has been a journalist, and brings to his position the advantages of "a trained pen," a well-balanced head, and broad grasp of things in general. As managing editor of the *Chicago Daily News* he has

proved what a doctor can do in successfully running a great newspaper. We wish him success in his new office.

A Notable Union.—The doctors of Northern Ohio will gather at Mansfield, November 5th to 7th, for at that time and place the three societies of Northern Ohio, viz., the Northwestern Ohio Medical Society, the North Central Ohio Medical Society, and the Northeastern Ohio Medical Society, hold a union meeting.

Illinois Army and Navy Medical Association.—The Illinois Army and Navy Medical Association was organized at Springfield, Ill., June 26, 1890, with Dr. Hosmer A. Johnson, of Chicago, as President, and Dr. John H. Rauch as Secretary. The objects of the Society are the promotion of social intercourse and historical and medical subjects connected with the late war. All reputable physicians now living in Illinois, whether in practice or not, who served in the Army or Navy during the late war, and all who were Surgeons, or Acting Assistant Surgeons, who were with Illinois troops, and are now non-residents of the State, are eligible to membership. At the second meeting of the Association, held in Springfield, May 18 and 19, 1891, Dr. John H. Rauch was elected President, vice Dr. Johnson, deceased, and Dr. Edward P. Bartlett, of Springfield, was elected Secretary. The Association met again in Chicago, October 7th and 8th.

Curiosities in Science.—John Hunter was five feet two inches high, so says Mr. William Clift. Double monsters, says Dr. Baudain, are more frequent in Central Europe than anywhere else, as also are twins. The Barnums, when in search of "phenomena," invariably go to Hungary, Austria, and Galicia.

Prodigiously Prolific.—A single germ, says Cohn, under good conditions could multiply in three days to 4,772 billions, and make a mass weighing 7,500 tons.

The Utility of Filth.—Sweet are the uses of adversity, but richer and more fructifying is, in some contingencies, the utility of filth. At least such seems to have been the case with Anthony van Leeuwanhoek, who gave the first accurate description of bacteria, and who got his material from the teeth of an old man who never cleaned his teeth. After all, why should not the old man, with his rich dental microbic cultures, share a little of the immortality of Leeuwanhoek?

The First Colored Female Doctor.—We are informed by Dr. A. S. Houghton, of Seymour, Conn., that the despatches were incorrect in saying that the first colored female doctor had just passed the Alabama State Board. Dr. Consuela Clark, a colored lady of Cincinnati, O., has practised medicine since 1886.

The Bacteriological vs. the Chemical View of River Pollution.—Yet there are said to be some people, and among them even some physicians, who still hold to the fatal fallacy of the late Dr. Letheby, Medical Officer of Health of London, about twenty-five years ago, that "sewage, when it is mixed with twenty times its volume of running water, and has flowed a distance of ten or twelve miles, is absolutely destroyed; the agents of destruction being infusorial animals, aquatic plants and fish, and chemical oxidation." This theory appears to have been based upon Dr. Letheby's inability to detect the sewage under such circumstances, hence he believed in its total destruction, notwithstanding abundant evidence adduced of the prevalence of cholera and typhoid fever among persons who drank such water. He had more faith in his chemical tests and microscopes than in the fatal results. Unfortunately, Dr. Letheby's theory appears to have been accepted by Professor Chandler, of New York. It was on his judgment that the people of Albany consented to drink the sewage of Troy; and it has been through faith in his analyses and judgment that the Croton and Hudson have been held up as examples of purity, notwithstanding the amount of filth constantly poured into them, as well as the Passaic, and the high rate of mortality from intestinal diseases among those who have used these waters, that cannot otherwise be accounted for.—*The Sanitarian.*

The Officier de Santé is likely to be abolished by law in France. This is the lower medical qualification in that country. In a land where all who study medicine can and do qualify themselves properly for a degree, such a title is unnecessary. France has perhaps outgrown it. In this country it would perhaps be a wise thing if those who studied medicine for three years only, taking but two didactic and no regular clinical courses, held a different degree from those who had studied four or five years, provided, of course, that those of lower grade had opportunities later to qualify in the higher.

Dr. A. B. Judson, the President of the "Orthopedic" Association, which formed part of the Congress of American Physicians and Surgeons, states that "many, even among the learned, suppose that the latter part of our name is derived from the Latin word for *foot*, instead of from the Greek for *chila*. This," he adds, "is the Nemesis of phonetic spelling."

Gout from Fasting.—M. Jacques, during his fifty days' fast in London, recently suffered from gout during the later period of his fast.

The Transactions of the Tenth International Medical Congress at Berlin are gradually finding their way out of the hands of the editors and printers. The proceedings of Section VIII. (Midwifery and Gynæcology) have just appeared, while those of Sections VII.A (Orthopædic Surgery) and IX. (Neurology) are on the eve of publication. Sections VII. (Surgery) and X. (Ophthalmology) are in the press. Sections XI. (Otology), XII. (Laryngology), and XIII. (Dermatology), which complete the work, are upon the way.

Ambulance System in Baltimore Needed.—The *Johns Hopkins Hospital Bulletin* says that Baltimore has no ambulance system. Accident cases and cases of severe disease are forced to rely upon the police patrol wagon, which does not furnish any adequate shelter from the sun or storm, nor good facilities for the transportation of the sick and wounded.

Georgia Medical Examining Board Bill.—According to the *Southern Medical Record* a bill will be introduced in the Georgia Legislature looking to the establishment of a Medical Examining Board in that State.

The Southern and Gynæcological Association will hold its fourth annual session in Richmond, Va., beginning Tuesday morning, November 10, 1891.

Reviews and Notices of Books.

THE POCKET ANATOMIST. Founded upon Gray. By C. HENRI LEONARD, A.M., M.D., Professor of the Medical and Surgical Diseases of Women and Clinical Gynecology, in the Detroit College of Medicine. Fourteenth Revised Edition, containing Dissection Hints and Visceral Anatomy. Detroit, Mich.: Illustrated Medical Journal Co. 1891.

THIS is a very compact little book of nearly three hundred pages, conveniently arranged and excellently illustrated. These illustrations are photo-reproductions of those of Gray, and are well printed on glazed paper, showing all the parts with great distinctness. The anatomical descriptions are concise but clear. The pronunciation of the different terms needs revision, for students ought not to be misled by such accentuation as clitori'dis, introi'tus, pterygoide'us, mastoide'us, etc. However, the author in this respect is no greater sinner than the compilers of some medical dictionaries that ought to be authorities. That the book is a useful one and meets a want is evidenced by the fact that this is the fourteenth edition. As a convenient little work of reference its utility would be enhanced by a more copious index.

BACTERIA AND THEIR PRODUCTS. By GERMAN SIMS WOODHEAD, M.D. Edin., Director of the Laboratories of the Conjoint Board of the Royal College of Physicians and Surgeons; formerly Research Scholar of the Honorable Grocers' Company. With Twenty Photo-micrographs, and an Appendix Giving a Short Account of Bacteriological Methods, and a Diagnostic Description of the Commoner Bacteria. New York: Scribner & Welford. 1891.

AN enormous bacteriological literature has grown up within the past decade, and the student who desires to pursue the subject scientifically and prepare himself for original research, is almost hampered by an embarrassment of riches when he looks around for a guide for his first steps. There have been also many popular works written about micro-organisms and their relation to disease. But we have never seen a book better adapted to the instruction of the intelligent layman, as well as to the guidance of the beginning worker in this science, than the one before us. The main part of the work deals with the phenomena of fermentation and with a description of most of the bacteria whose relation to certain diseases is now established, while in the appendix directions are given for the cultivation, staining, and diagnosis of the most important varieties of microbes. The illustrations are fairly good, serving to elucidate the already clear descriptions in the text, and withal we can recommend the book as not only instructive, but also highly interesting, to anyone who wishes a more definite idea than he now has of the science of bacteriology.

PRACTICAL PATHOLOGY AND MORBID HISTOLOGY. By HENEAGE GIBBES, M.D., Professor of Pathology in the University of Michigan; formerly Lecturer on Normal and Morbid Histology in the Medical School of the Westminster Hospital, London; formerly Curator of the Anatomical Museum, King's College, London. Illustrated with Sixty Photographic Reproductions. Philadelphia: Lea Brothers & Co. 1891.

THE student of morbid histology and bacteriology has at his hand in this neat volume of some three hundred pages, a most excellent guide, and one which, unless he be a very advanced student, he cannot afford to be without. The work is divided into four parts, the first, that of practical pathology, containing clear and precise directions in histological technique, showing how to prepare the tissues for examination, cut, stain, and mount sections, etc. The second part deals with bacteriology, with the different forms of cultivations, microscopic examination of bacteria, etc. The third part, which comprises more than half the book, treats of morbid histology. This part is illustrated with a great number of beautiful photo-micrographs in which the microscope field is reproduced with a distinctness that is really remarkable, when it is considered that they are printed on a fairly good quality of book-paper, and not on the highly polished paper that is usually employed. The fourth part contains some very practical instruction on photography with the microscope. A few more works like this of Dr. Gibbes would soon popularize histology among the profession at large, whereas now it is to a large number of physicians almost as much of a sealed book as pharmacology or botany.

ATLAS DER CYSTOSKOPIE. Von DR. EMIL BURCKHARDT, Privatdocent der Chirurgie und früherem Assistenzarzt der chirurgischen Klinik an der Universität Basel. Mit 24 Tafeln in Farbendruck. Basel: Benno Schwabe. 1891.

THIS is a series of twenty-four chromo-lithographic plates, each presenting two or three figures illustrative of the endoscopic picture of different portions of the vesical mucous membrane in health and disease. The plates are beautifully made and give a very clear idea of what the eye actually beholds in looking through the cystoscope. The illustrations depict the normal bladder, acute and chronic cystitis, prostatichy pertrophy and the consequent trabecularism of the bladder-walls, tuberculosis and various tumors of the cystic mucous membrane, calculi, foreign bodies, and wounds and fistulæ of the bladder. All of these were drawn by Dr. Burckhardt from nature, with the exception of one representing a pin in the bladder, which is after Nicoladoni. The plates are clearly printed on thick paper, and the work is one that must prove a very useful guide to all who have to do with the surgery of the bladder.

TRANSACTIONS OF THE MISSOURI STATE MEDICAL ASSOCIATION. THIRTY-FOURTH ANNUAL SESSION, 1891. Pp. 177.

THE papers cover the usual wide range of general practice, and are all creditable.

THE MOTHER'S HANDBOOK. By LEVIN J. WOOLEN, M.D., Washington, D. C. 8vo, pp. 419. Richmond, Va.: Everet Waddey Co. 1891.

THIS is a somewhat voluminous treatise on the management of children in health and disease. It is meant for household use, but is written with accuracy and with the full appreciation of what is needed in a book of this kind. It has an appendix containing articles on diseases and accidents that may suddenly happen to grown persons.

MANUEL DE MÉDECINE ANTISEPTIQUE; Applications de l'acide phénique et de ses composés. Par le DR. DÉCLAT. Paris: O. Doin. 1890.

THE name of the author will always be remembered for the great efforts he has made to bring carbolic acid before the medical profession. In this compact volume of nearly five hundred pages, he recounts his struggles and triumphs. His ideas are so generally accepted now, in one sense, that his writing is historical rather than polemic. In one sense, we say, for while there is a consonance of opinion on the general theories of antiseptic medicine, the claims which M. Déclat makes for carbolic acid are not by any means universally accepted. He reviews the history of parasiticido-medication, and follows with general rules for the application in various modes of his favorite remedy. He then passes, in alphabetical arrangement, through a list of all the common maladies and shows the therapy of the acid therein. A copious formulary is appended. It is not often that the history of any medicinal agent is so completely written up as is the case with the one under consideration. M. Déclat has rendered a distinct service to medical literature.

DES GLYCOSURIES NON DIABÉTIQUES. Par G. HALSTED BOYLAND, Docteur en Médecine de la Faculté de Paris, etc. Pp. 91. Paris: Henri Jouve. 1891.

THE author reviews the history of the clinical discovery of sugar in the urine, and then discusses the physiological relations of this phenomenon. Among the etiological factors he includes diet, cold, malaria, diphtheria, and influenza, also gastric and hepatic disorders and syphilis. Full clinical reports illustrate his various propositions. Treatment should fulfil two indications, viz.: to limit the polyuria when it exists, and to lessen the sugar. Opium he regards, on the whole, as our most reliable drug, though he has found antipyrin of service. Of course attention is to be paid to diet, hygiene, and the removal of any assignable cause. The monograph is an able study of a most interesting clinical subject. A full bibliography is given.

ÉTUDE SUR L'ADÉNIE PSEUDO-LEUCÉMIE (Maladie de Hodgkin). PAR JEAN CROCQ, FILS. Pp. 81. Brussels: H. Lamertin. 1891.

The first part of the study consists of full clinical histories of one hundred and twenty-one cases, with reports of autopsies. The second part is devoted to a general discussion of the subject. A full bibliography is given, and also some excellent woodcuts of microscopic sections from various organs. Concerning the name of the disease, he shows that the malady described by Hodgkin is not exactly what goes at the present day under the name of "Hodgkin's Disease." He prefers the common term "Pseudo-Leucæmia," as best describing the affection. The Germans will prefer, he says, the latter, and the English the former, while the French will cling to "Adénie." The author has no new views to advance.

Society Reports.

CANADIAN MEDICAL ASSOCIATION.

Twenty-fourth Annual Meeting, held in Montreal, September 16, 17, and 18, 1891.

DR. F. G. RODDICK, M.D., PRESIDENT, IN THE CHAIR.

(Special Report to the MEDICAL RECORD.)

FIRST DAY, WEDNESDAY, SEPTEMBER 16TH.

AMONG the visitors present were Mr. Thomas Bryant, of Guy's Hospital, London, England, Dr. Barber, Gynecologist, of Edinburgh, and Drs. Phelps and Gibney, of New York. A much appreciated innovation of this year was the setting apart of two hours each day to a visit to the three great general hospitals, the Montreal, the Notre-Dame, and the Hôtel-Dieu; at the latter institution Dr. Hingston performed an excision of the head of the femur of a boy, nine years of age. He also gave an address on the diagnosis of abdominal tumors.

Malaria.—DR. BRAY, of Chatham, opened the afternoon session with a paper on "Malaria." His views of its etiology were that the disease was due to a micro-organism, the placidium malarii in the blood which were taken into the system either by the respiratory or by the digestive tracts; three things were necessary for their production, namely: heat, moisture, and vegetable decomposition. Their presence in the alimentary tract gave rise to dysentery, which can only be cured by clearing out the intestines and giving quinine. The reply to the question why we have it in winter, when the decomposition of vegetation is arrested, is that there is a supply of the microbe organism stored up in the earth and drinking-water, and even the human body. In accordance with the law of all germs, they may remain quiescent as long as the constitution of their host is vigorous, but rapidly develop when the system is run down. This also explains why people may develop an attack of malaria thousands of miles away from a malarious district. Sudden changes of temperature favor an attack. He endeavored to explain the various types, such as quartan, tertian, etc., by the strength of the virus, which varied according to the age of the virus and the time of the year. Cases of old-fashioned shaking ague were rare, except in immigrants who received the full strength of the poison. It had a tendency to become milder as lands were drained and cultivated and the forests were cut down. He denied the existence of such a disease as typho malaria, but there was nothing to prevent a coincidence of the two diseases. The diagnosis could be made with quinine.

DR. CHRISTIE, of St. John, had seen the disease break out in the Sailors' Hospital among patients who had never been in the malarial district; which led him to think the disease could be imported.

Ovariotomy in Pregnant Women.—DR. GARDNER, of Montreal, read a paper on three ovariotomies in which pregnancy existed, without in any way interfering with its progress. The first one was at three months, the second at one month, and the third at four and one-half months. He thought that this fact was important, as enabling us to deal with ovarian tumors irrespective of pregnancy.

DR. BARBER, of Edinburgh, referred to several cases of women with coexisting ovarian tumor and pregnancy, in one of which there had been torsion of the pellicle, rupture of the cysts, with peritonitis; operation was performed and the woman went to full term.

DR. LAPTHORN SMITH, of Montreal, desired particularly to call the attention of practitioners to the possibility of pregnant women having small ovarian cysts and Fallopian tubes full of pus, for the reason that any rough handling of the uterus after labor, as in Crede's method, might lead to their rupture; thus causing puerperal peritonitis which would surely terminate fatally unless the abdomen were opened early and its contents washed and drained. He had only had two deaths in over five hundred confinements, and one of these he believed was due to such an accident; for irrigation and curetting and other rigorous antiseptic measures failed to produce any effect. He thought that the time was not far distant when abdominal section would always be resorted to as soon as the diagnosis of general puerperal peritonitis was made out.

DR. ALLOWAY, of Montreal, made some remarks upon the difference there was in different uteri with regard to their readiness to empty themselves. Some cannot be made to abort without the greatest provocation, while others will miscarry very easily. He explained this difference by the presence or absence of endometritis, and he recommended the sharp curette as the best treatment for persistent miscarriages.

In replying, DR. GARDNER strongly supported Lapthorn Smith's remarks, and he also agreed with Dr. Smith in trying early laparotomy in puerperal peritonitis, as probably one third of all cases are due to rupture of cysts. In reply to a question by Dr. Ruttan, he would not recommend interference if the tumor was discovered after labor had begun, unless it were imprisoned in the pelvis, in which case he would aspirate as the temporary proceeding.

Early Diagnosis of Pott's Disease of the Spine.—DR. V. P. GIBNEY, of New York, pleaded for early diagnosis in spinal disease. Every case should be thoroughly examined and the child stripped, and if there was a single tender spot a spinal jacket should be applied. If done sufficiently early every case would be saved from deformity.

DR. PHELPS, of New York, called attention to spasmodic contraction of muscle as a symptom of bone disease in young children. He advised putting them on a hard mattress with extension and counter-extension.

DR. BELL also preferred a plaster-of-Paris corset instead of iron supports.

DR. RODDICK was in the habit of putting a child on its

face across his knees, so as to put the spine on the stretch while the painful spot was sought for.

The President's Address.—Dr. Roddick then delivered the President's address, in which he referred to the great progress Montreal was making as a great hospital centre, laying especial stress upon the many modern improvements in the Royal Victoria. In speaking of baths and mineral springs with which Canada was so well provided, he thought their value was not sufficiently appreciated. He was not altogether in favor of the five years' course, on the ground that it might keep out able but poor young men.

Rest in the Treatment of Hip-joint Disease.—Dr. A. M. Phelps, of New York, read a paper on the mechanical treatment of hip-joint disease. He thought that it began with inflammation of the articular surface, which was followed by muscular spasms, which in turn caused injury to the joint. It was a mistake to apply passive motion. How long should a joint be fixed? Until cured. He detailed a series of experiments on dogs, in whose joints ulceration followed pressure prolonged for six weeks; but after five months of simple immobilization normal joints were not affected, the only effect being that of atrophy of the muscles. The correct treatment was rest, which was best secured in bed. He preferred extension of ten pounds for a child, and lateral traction of three pounds, drawing away the thigh-bone from the pelvis.

Dr. Bryant, of London, while agreeing in everything with Dr. Phelps, thought that the question of rest was settled long ago, and that of itself would never lead to anchylosis. The great difficulty was that many of these cases were interarticular and would surely soften, break down, and suppurate, and when there is suppuration we know that we will find diseased bone which must be removed; but in the early stage we cannot tell what the condition is, and the best treatment is immobilization continued even for years.

Dr. Hingston carried this treatment out by means of extension, counter-extension, and two long lateral splints, one for each leg, which was both cheap and effective.

Drs. Sullivan, Fenwick, and Christie were also in favor of long lateral splints.

Drs. Roddick and Phelps maintained that while the long splint was the best in bed, the Thomas, of Liverpool, splint enabled the patient to go about.

Second Day, Thursday, September 17th.

The morning session was devoted to the general discussion on the advisability of making some central city, such as Ottawa or Montreal, the headquarters of the Association. General opinion was that the most successful meetings were those which were held in Montreal, and it would be better to meet here every year. The next question taken up was that of medical education. The general opinion was that the course of study should be for five years of ten months each.

Sir James Grant, of Ottawa, made a strong address in favor of a federation of the scientific associations of the North American continent.

Mr. Bryant urged his hearers to aim at making it compulsory for medical students to have a B.A. degree, and thought there should be only one examining body for the whole of Canada.

Railway Spine.—Dr. Praeger read a paper on railway spine, detailing several cases. Those which he treated by means of extension, manipulation, and plaster jackets recovered, while those whom he treated by resection, two in number, died.

Mr. Bryant thought that operation was seldom necessary. Injuries to the vertebral articulations should be treated the same as injuries of other joints, by immobilizing them.

Sir James Grant detailed two obscure cases with thoracic and abdominal symptoms, which had resisted treatment until he discovered the cause to be situated in the spine.

Calculous Pyelitis.—Dr. Fenwick read a paper on this subject, detailing several cases, in one of whom pain was absent, although there was a stone in the kidney weighing an ounce, and in another there was no hemorrhage In one case he had opened into the pleural cavity which was at once closed, and no bad results followed.

Mr. Bryant had never been obliged to remove a kidney; it had always sufficed to open it, wash it out, and drain.

Dr. Hingston thought that such cases should be operated upon as soon as seen, no matter how desperate the condition might appear.

Dr. Shepherd was also in favor of leaving the kidney in every case after removing the stone, and washing out.

Dr. Armstrong related a case in which the symptoms were quiescent for one year and then returned. In another case pain only came on when pus ceased to flow, and disappeared when the discharge was re-established.

The Pathology of Anæmia.—Dr A. B. Macallum read a paper dealing with the pathology of simple anæmia and chlorosis. The conclusions which the author drew from his own observations were as follows: 1. That hæmoglobin is derived from the nuclear substance, chromatin, which is very abundant in hæmatoblasts. 2. That the chromatin of every cell, animal and vegetable, is an iron-holding compound. 3. That the iron of iron salts administered to anæmic patients does not go directly into hæmoglobin, if it is assimilated at all. 4. That only the chromatin which is in excess of the needs of the cellular elements of the body is converted into hæmoglobin, and, therefore, a deficiency in the formation of the latter indicates in anæmic patients a deficiency in, or a small supply of, chromatin in the system, a deficiency which prevents the proper development of the organs in chlorotic patients, bringing about the condition called hypoplasia by Virchow. 5. That the chromatins of the body are formed only in the vegetable kingdom, and that hæmoglobin is a degeneration product of them, just as hæmatoidin is a degeneration product of hæmatin or hæmoglobin. 6. That iron is not assimilated in the animal body and built up into chromatin, and its action is that of preventing the decomposition brought about by alkaline sulphides or through the agency of bacteria.

In the last conclusion the author agreed with the views of Bunge.

Appendicitis.—Dr. Cotton reported four cases of this affection, all characterized by constipation and retention of urine, high temperature, and pain and tenderness. In three of the cases he operated on the eighth day, while in the fourth the abscess broke into the bladder.

Dr. Armstrong dreaded this disease very much, and had lost several cases. He believed in operating at the end of twenty four or thirty-six hours.

Dr. Praeger was more in favor of sulphate of magnesia and of opiates.

Dr. Roddick thought that many cases got well without operation, while no operation will save some of the other cases. He had obtained marvellous effects from small doses of calomel, one-tenth of a grain every hour. This latter drug was strongly endorsed.

Interesting papers were then read by Dr. Dupuis, of Brighton, on seventy-six tumors, mostly of the breast; by Dr. Shepherd on "Cæcal Hernia Complicating an Ordinary Inguinal Hernia." In this case he cut off a piece of the cæcum while removing the sac; it was sewed up with continuous silk sutures, also Lembert suture, and the patient made a perfect recovery.

Conservative Surgery of the Eye.—Dr. Buller read a paper on this subject. He advocated leaving the sclerotic so as to form a moving stump for an artificial eye, or else to resect the optic nerve, treating the cut ends with antiseptics.

Drs. Prodfoot, Foucher, Gardner, and Osborn, of

Hamilton, took part in the discussion, the general opinion being that many cases of severe injury to the eye recovered without operation.

Dr. Alloway then read a paper advocating Schroeder's operation in preference to Emmet's in cases of lacerated cervix of long standing with cystic degeneration. His paper was illustrated with wax models.

Dr. Small read a paper on "Cancer of the Cervix Complicating Labor." The general conclusion was that it was better to wait till full term.

Dr. Wilkins then read a paper on "The Cold Bath Treatment of Typhoid Fever."

Dr. Lapthorn Smith read a paper in which he strongly advocated the A.C.E. mixture. His preference for this mixture was based on fifteen years' experience with it. Its great advantage was its safety.

On the third day the meeting adjourned from noon till two o'clock, to the Notre-Dame Hospital, where many cases were shown.

The next meeting of the Association will be held in Ottawa.

Correspondence.

OF WHAT DID SHAKESPEARE DIE?

To the Editor of the Medical Record.

Sir: The above conundrum is proposed in the Medical Record of September 26, 1891. Although the cause of Shakespeare's death is a matter of pure speculation, a consideration of the conditions incident to the occasion conveys a strong probability that the poet died of pneumonia rather than paralysis, excepting that some nervous impairment may have been a predisposing cause.

His age at death, fifty-two, is a period of life when the mortality from pulmonary diseases has definitely increased in proportion to other causes.

His death occurred during the month of April, which in England, as here, is a month of treacherous changes in temperature and weather. It affords abundant opportunities for the development of respiratory lesions.

Sometime prior to his death he passed an interval of excessive conviviality, and quite likely deep intoxication, in the companionship of congenial friends. That means, that he placed himself in a situation from which reckless personal exposure would naturally arise.

Here are three factors which favor the development of pneumonia. The legend runs that at his last drinking bout he contracted a fever, from which he died. Fevers do not come in this way. Pneumonias do.

Now, supplement these by the evidence furnished by the death-mask—granting its authenticity. The matrix from which the mask was made was undoubtedly secured within twenty four hours after death, "before decay's effacing fingers have swept the lines where beauty lingers."

Death sometimes leaves upon the face the seal that designates the manner of his work. For instance, sudden, violent death arrests the muscles in their last contraction. The soldier clutches his gun, his bent knee is rigid, while from his half parted lips the oath or battle cry seems to have just sped.

The brakeman gone to immediate death in a crush bears upon his face the imprint of his last thought, of duty, of home, or what?

The expression of lingering and wasting disease touches the physiognomy otherwise. Death stands so near, so long, that the body becomes accustomed to his presence, and he is not unwelcome. At the end his hand is often gentle, and the features betoken simply placid rest.

On the contrary, the course of pneumonia is laborious. Toward the end, the expression of the face becomes like that of one who is toiling under a burden, breathlessly and without rest. The close of life is the first pause from utter weariness and exhaustion. This characteristic pneumonic expression remains after death.

Compare the features of the Shakespearian death mask with those of the dead from pneumonia at Shakespeare's age. Their identity is scarcely mistakable. That which Mr. Carpenter has described as a "look of ineffable sadness" is the true pneumonic physiognomy. It is remarkably alike to that of one who has succumbed to complete weariness—who has been tired, painfully tired, unto death. So, summing up this testimony, a jury at the present day might reasonably return a verdict of "death from pneumonia" without venturing to "move these bones" and thus invite the curse.

"Ysica Iagn."

A DANGER IN THE USE OF COCAINE.

To the Editor of the Medical Record.

Sir: An incident that occurred in my practice yesterday forcibly recalls a remark, made to me by the late Dr. C. R. Agnew, when cocaine first came into use, to the effect that someone would yet suddenly die while under its influence. This prediction, as is well known, has been fulfilled in not a few instances through hypodermic injections and other methods of using cocaine, but I do not remember to have noticed an account of serious symptoms resulting from its cataphoric use. I beg, therefore, briefly to call attention to the possible danger that may attend this method of securing the analgesic effects of cocaine.

I was treating a patient for the removal of superfluous hairs by electrolysis, upon whom I had on several previous occasions made use of a four per cent. solution of cocaine by cataphoresis.

As this strength only partially alleviated the pain when operating upon the hairs of the upper lip and under the chin, a ten per cent. solution was substituted and a more vigorous current employed.

After waiting a few moments for the cocaine to take effect I began work, when almost immediately the patient complained of great oppression in the chest.

The face became deadly pale, followed by loss of consciousness associated with violent tremors.

These ceased, and for a moment the patient was almost pulseless and death seemed imminent. Semi-consciousness, however, soon returned, and under vigorous stimulation the heart's action gradually gained in strength, but it was several hours before she fully recovered. This experience should emphasize the necessity of great caution in resorting to the cataphoric action of electricity, and illustrates how readily absorption takes place through this method. I should certainly hesitate to again use a ten per cent. solution of cocaine with a current of even five milliamperes, the strength employed in this case.

A. D. Rockwell, M.D.

October 7, 1891.

THE FIRST HIP-JOINT AMPUTATION AGAIN.

To the Editor of the Medical Record.

Sir: I hope you will pardon me for writing again at this late date upon the above question. I did not see the Record from June 20th until September 20th, hence the long silence.

While Dr. Arnold, of Brooklyn, N. Y., is correct, as to who did the operation, still the date is not correct. As the doctor did not look at the work, I doubt it, at least.

And hence, to settle the question for years to come, and to inform those who may wish to know, I quote a part of Dr. Townsend's letter to Professor Velpeau, in his preface to vol. iii. of Velpeau's "Operative Surgery," Wood & Co., 1847.

And this accounts for my not being correct, as it is positively stated in vol. ii., as referred to before, that Dr. Mott was the first; yet before vol. iii. left the press the right man was found.

Dr. Townsend says, on page iv., vol. iii.: "It is a source

of infinite satisfaction both to Dr. Mott and myself to have an opportunity, at this late hour, of rescuing another and more important surgical claim from oblivion by the accidental acquaintance we made during the past summer with the venerable Walter Brashear, M.D., for many years an eminent planter of Attakapas, La., and a senator of that State. . . . As it is now ascertained we are indebted to Dr. Brashear for the first hip-joint amputation in America which was followed with complete success. This occurred as early as the year 1806, only three years after the illustrious Larrey had revived and perfected this operation in the campaigns of Napoleon." Dr. Townsend then states that "Dr. Mott cheerfully abstracted the plume from his own honored brow and affixed it to whom it rightly belonged." And further states, "as it may doubtless become the theme of future discussion, we take the opportunity of placing here upon record a too brief account of the achievement of Dr. Brashear, as communicated in his own words."

The following is Dr. Brashear's letter:

"PHILADELPHIA, August 13, 1846.

"MY DEAR SIR: In conformity to promise I now give you a brief statement of the operation which I performed in Bardstown, Ky., in August, 1806, on the hip-joint. The subject was a boy seventeen years of age. Without assigning the cause which led to the necessity of the operation, the same was performed, after consultation with Drs. Harrison and Goodlet, and conducted in the manner following, first premising that, in absence of any knowledge of an established mode for this operation, a common-sense reasoning as to its safety and facility alone dictated the manner of performing it. Therefore an operation of the thigh in the ordinary manner was determined on, as remote from the hip-joint as circumstances might justify (in this case about mid thigh). The amputation was performed, and the arteries secured. The next step was to make an incision to and from the lower end of the bone, externally, over the great trochanter to the head of the bone, and upper part of the socket. The dissection of the bone from the surrounding muscles was simple and safe by keeping the edge of the knife resting against the bone. The bone being disengaged from its integuments at its lower extremity was then turned out at a right angle from the body, so as to give every facility in the operation to separate the capsular ligament and remove the head from its socket. After the operation nothing more than ordinary dressings were used, and in the course of a short time the patient removed to St. Louis, where he was living within a few years past.

"I am very truly yours,

"WALTER BRASHEAR.

"DR. P. S. TOWNSEND."

Hoping the above will not be considered either too late or too long,

I remain yours truly,

CHEEVER BEVILL, M.D.

WINFIELD, ARK., September 23, 1891.

THE DISPENSARY ABUSE ALWAYS WITH US.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: While the matter to which I desire to call the attention of the medical profession is by no means one which has not been discussed before, the abuse is being carried to such an extent at present that I think some remedy is called for. I refer to the free treatment of patients—especially in the large cities. A visit to one of the dispensaries or out-door departments of the hospitals or post-graduate schools in New York, will convince anyone that hundreds of patients are receiving free treatment there daily, who can well afford to pay for it. None suffer so much from this abuse as the younger members of the profession, who, after giving their services gratis for a year or two at some hospital, open an office, only to find that many of the patients who legitimately belong to them are receiving free treatment in the dispensaries, etc.

There is no profession where so much work is done for "sweet charity's sake" as in medicine, and this is quite right, but the line must be drawn somewhere, and it lies within the power of the medical press and societies to deal with this question. The remedy, I fear, has not yet been discovered, but as a possible step in that direction I would suggest that, before any case is treated at these places, the patient must present a certificate from a reputable minister or physician, or from some public or private charitable institution or society, stating that he or she is deserving of free treatment. Perhaps an expression of opinion on this point from other physicians would be of interest.

A PHYSICIAN.

NEW YORK, September 29, 1891.

Clinical Department.

DILATATION OF THE STOMACH.

BY J. L. WHITCOMB, M.D.,

NEW YORK.

ON July 7th, I was hurriedly called to see Joseph M——, a bartender, aged thirty-five. I found him sitting in a chair, bent nearly double, the perspiration running in streams down his face. I learned that he had not been feeling well for two days, but had been able to stand behind the bar until about one-half hour before I saw him. His arms were flexed on his chest. Forearms and fingers were also tightly flexed. Legs and neck were rigid. He could hardly speak, his tongue muscles seemed to be in a tonic spasm. He complained of severe pain in his stomach, arms, legs, and throat, also of formication of face and limbs. Sensation normal, pulse, 100. Temperature, 101° F. Emaciated, weighing about 130 pounds. Veins distended. I gave him about 14 minims of Magendie's solution, and had him carried to bed, as he could not walk. On physical examination, I found his lungs and heart normal. Liver rather small. On inspection, his abdomen was somewhat depressed above the umbilicus and distended below that point. On palpation no pain could be elicited; below the navel it was hard and resisting. He said it was always as "hard as a board." By placing the tips of the fingers on the abdomen and quickly pressing with first one hand and then the other, a loud splashing could be heard all over the room. By grasping the body just above the hips and shaking it, this percussion was still more marked.

On percussion, there was tympanitic resonance above the navel, extending well upward and to the left. Below the navel there was flatness to within two inches of the pubes, and extending two or three inches laterally from the median line; beyond this area the percussion-note was tympanitic. He complained of "wind" rising in his throat and stopping there, and causing him pain. He seemed to have spasms of the œsophagus, made worse by talking, and he would grasp his throat when he tried to speak. His tongue was coated white and his breath was fetid.

History.—He said he had had dyspepsia for about five years, and during that time he had vomited from one to four times a day, rarely ever missing a day. Three years ago he was in hospital and was treated for his dyspepsia, his stomach being washed out every day. While undergoing this treatment he claims he grew weaker every day, and got no better till he left the hospital. He begged me not to wash out his stomach. He says he could always eat more than three men, and could drink three or four quarts at a time. Whiskey and beer disagreed with him, and he could not use them. He says he

often has cramps in the legs and arms, and in his stomach, but never so bad as at present. His mother had a "big stomach" for years before her death.

Treatment.—Morphine hypodermatically till pain and cramps subsided. As he lived in a malarial district I gave him quin. sulph., gr. x. per diem. Also acidum carbolicum, gr. j. in pills, t.i.d. And pil. ferri, strychniæ et quiniæ, t.i.d.

Diet.—Small quantities of milk punch or egg-nog and soft-boiled eggs at frequent intervals. His cramps, pain, and formication gradually subsided, and by the third day had disappeared completely. Then I stopped the morphine, and after that his bowels moved two or three times a day. The passages were horribly fetid. The urine was normal. His vomiting ceased, and flatulence also, although his breath was fetid. At the end of six days he could sit up in bed and seemed to suffer from nothing but weakness. In two or three days more he was on his feet again and around.

Remarks.—Clinically, it is well known that disorders of the stomach and intestines are often associated with muscular cramps and spasms as is seen in cholera morbus, cholera infantum, and in constipation and diarrhœa in infants, where the spasms amount often to general convulsions. In adults they are rare except in Asiatic cholera and, according to Loomis, dilatation of the stomach, the cramps being confined usually to the calves of the legs. This connection between abdominal trouble and muscular spasm has been explained by assuming that the large sympathetic ganglia situated in the abdominal cavity, being irritated, act reflexly on the vaso-motor ganglia and nerves, causing a contraction of the arteries supplying the muscles affected, the resulting anæmia being the direct cause of the spasm. It seems more rational to suppose that the anæmia is of the cord and brain, and affects the motor centres principally. Puerperal eclampsia is generally considered to be uræmic in origin, but when we consider the close relation of the uterus to the large sympathetic ganglia of the abdominal cavity, how richly that organ is supplied with sympathetic nerves, how nearly the pregnant state comes to being a pathological state in many women, and how easily the finely adjusted balance of the nervous system is disturbed during pregnancy in most women in civilized countries; when we consider that in many cases of eclampsia there are no discoverable lesions of the kidneys; then we can conceive of non-uræmic eclampsia, and of muscular convulsions in pregnancy, due to the same cause as a muscular spasm in stomach or intestinal disease, namely, irritation of the sympathetic nervous system.

MATERNAL IMPRESSIONS.

By K. N. FENWICK, A.M., M.D.,

KINGSTON, ONT.

Being interested in Dr. Mason's article in the Medical Record for July 11th, and a firm believer in the influence of maternal impressions on the fœtus in utero, I would like to add my quota of evidence for this side of the argument.

Mrs. T. R—— and her husband are both of dark complexion, and their first two children were quite dark, with black hair. During the early months of her third pregnancy she wakened up one morning to find the sky of a peculiar crimson color, which made such a vivid impression that, as she expressed herself, she "thought it was the judgment day." At full term she was delivered of an albino boy. She was greatly distressed over this, and during the next pregnancy worried constantly—an albino girl was born. Then followed within two years another albino girl. The next was a boy, dark and resembling the parents, and then, at intervals of two years, two more albino girls, making five albinos in a family of eight children.

A few years ago I was consulted by a woman for some pleuritic pain, and noticed that she had marks on one side of her nose and chin like the effect of a gunpowder explosion. I offered to remove these points when she got better, but found that she was born with them. She said her mother had suffered from a gunpowder explosion during the early months of her pregnancy, and that the daughter was born with marks exactly resembling her mother's.

Another patient was during her pregnancy in the habit of looking out of the window at laborers excavating the street drain, and one of these had a hook attached to the stump of his right arm which had been amputated at the elbow. She was of a very nervous and sympathetic nature. Her child when born presented a right arm ending in a stump at the elbow exactly like that of the laborer who had excited so much sympathy in the mother.

How can these cases be explained by coincidence?

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 4, 1891, to October 10, 1891.

Alexander, Charles T., Colonel and Chief Medical Purveyor. Relieved from duties of Attending Surgeon and Examiner of Recruits in New York City, and assigned to the charge of the medical purveying depot in that city.

Forwood, William H., Surgeon. Granted leave of absence for one month, on account of sickness.

Banister, John M., Assistant Surgeon. Granted leave of absence for four months.

Suter, William N., Assistant Surgeon. Granted leave of absence for one month, to take effect on or about October 15, 1891.

Official List of Changes in the Medical Corps of the United States Navy for the week ending October 10, 1891.

Dickson, S. H., Surgeon. Ordered to Marine Barracks, Washington, D. C.

Magruder, A. F., Surgeon. Detached from Marine Barracks, Washington, D. C.

Ferebee, N. McP., Surgeon. Ordered to the Atlanta.

Drennan, M. C., Surgeon. Detached from the Atlanta.

Tryon, J. R., Surgeon. Ordered to the Chicago.

Walton, J. C., Medical Inspector. Detached from the Chicago and granted six months' leave.

Keeney, J. F., Passed Assistant Surgeon. Detached from the Minnesota, and ordered to Naval Hospital, Brooklyn, N. Y.

Crandall, R. P., Passed Assistant Surgeon. Detached from the Naval Hospital, Brooklyn, N. Y., and ordered to the Naval Laboratory.

Boyd, Robert, Assistant Surgeon. Detached from the Marine Rendezvous, Boston, and ordered to the Chicago.

Alfred, A. R., Assistant Surgeon. Detached from the Fern, and ordered to the Kearsarge.

Gates, M. F., Assistant Surgeon. Detached from the Kearsarge, and ordered to the Fern.

Ames, Howard E., Surgeon. Ordered as Delegate to the Public Health Association, Kansas City, Mo., October 20, 1891.

North, James H., Assistant Surgeon. Resignation accepted, September 8, 1891.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 10, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	52	18
Scarlet fever	61	11
Cerebro-spinal meningitis	2	5
Measles	27	4
Diphtheria	78	14
Small-pox	1	0
Varicella	0	0
Pertussis	1	7
Erysipelas	0	0
Mumps	0	0
Rötheln	0	0

Poisoning by Wild Parsnips.—Cases are reported from time to time of poisoning by eating wild parsnip. Dr. Frederick B. Power, of Madison, Wis., has been investigating these and similar cases (*Pharmaceutische Rundschau*, July, 1891), and finds that it was not the wild parsnips (*Pastinaca sativa*, Lin.), but the water hemlock or spotted cowbane (*Cicuta maculata*, Lin.), the eating of which gave rise to the poisonous symptoms.

Inebriety Legally Disqualifies the Physician.—The Secretary of the State Board of Health of Iowa announces he is convinced habitual drunkenness constitutes "palpable evidence of incompetency," as the law reads, and therefore the physician bound by inebriety should be shorn of his certificate entitling him to practice in that State.—*The Medical Age.*

The Pasteur Institute in Buenos Ayres.—The report of this institution shows that 828 patients were treated there during the first three years of its existence. These embraced persons who had been bitten by dogs undoubtedly mad as well as simply suspected cases. Of the total number of patients 11 died.

An Arab Eye-Doctor in Brussels.—A number of persons in Belgium have lost their sight in consequence of maltreatment at the hands of a travelling quack, and many others have contracted granular conjunctivitis, become possessors of corneal opacities, and suffered other ills. The man, who is or claims to be an Arab, is not molested by the authorities, and is allowed to continue his destructive work in spite of earnest protests from the medical body in Brussels.

An Extra-Mundane Origin of Influenza. — Among the many ingenious hypotheses put forward to account for the origin and spread of influenza, it is interesting to observe one which approximates to a certain extent to the doctrines of those early Italian physicians who assigned a name which has the merit of vagueness and nescience—a name for which even now we are not prepared to find a better substitute. It would appear, however, that there is something still to be said for an extra-mundane origin of this mysterious affection; and the case has been well put by Mr. G. H. Willis, who adduces facts from Dr. Parsons's report to prove not only that the spread of the disease is unaffected by aërial currents, but in opposition also to Dr. Parsons's contention that it is mainly propagated along the lines of human intercourse. Mr. Willis suggests (*The Times*, July 10th) that the disease which visits so suddenly and simultaneously so many parts of the earth may take its rise in the intrusion into the atmosphere of some poisonous gas of such density as to penetrate, in spite of the law of diffusion, to the surface of the earth, over which it would necessarily tend to travel, in the main, in a westward direction, modified variously by the lower currents of the atmosphere. Such an assumption may serve to explain many of the singular facts noted in connection with the occurrence of pandemics; but it involves also the absolute abandonment of any hope that science will ever find means to prevent the disease. When sanitation has banished all specific fevers, the human race will still be prone to infection (if that term is permissible in this relation) on the large scale from sources beyond the limits of terrestrial activity.—*Lancet*, July 18, 1891.

A New Hospital.—The Duchess Eugenia Litta Bolognini has given 500,000 francs (£20,000), the proceeds of the sale of her jewels, in consequence of the death of her husband and son, to the Ospedale Maggine, Milan, with a special request that the money may be applied for the benefit of the surgical department for children.

Toxic Power of Urine as an Aid to Diagnosis.—At a recent meeting of the Academy of Medicine, Dr. Semmola, of Naples, communicated a paper on "The Poisonous Qualities of Urine adopted as an Adjunct to Diagnosis." Up to the present time, he remarked, analysis of urine had for its principal object a diagnostic end. The discovery of leucomaïnes and ptomaïnes had greatly augmented the clinical importance of the chemical composition of urine, but the research of the toxic substances contained in the renal secretion is too long and too difficult for ordinary clinical purposes to be practised in a daily round of work. What is wanted is a rapid and simple method of measuring the toxic power of urine, such as the method of Bouchard, which consists in injecting it subcutaneously into animals. What may be termed the biological analysis here replaces with advantage the complicated chemical manipulation and calculation. Dr. Semmola had carried out this plan in his practice during the past four months, and among other cases he cited two in which the recorded observations were interesting. One was a case of phlegmonous disease of the arm in an old man of seventy. The general symptoms were extremely grave, but the biological analysis of the urine was such as to warrant a favorable prognosis, and in the result this proved correct. Dr. Semmola based his hopeful view of the case on the gradual diminution in the toxic power of the renal secretion, notwithstanding the persistence for some time of the grave symptoms above indicated. In another instance he had under observation a case of pneumonia in which an infectious origin was strongly suspected. At a certain stage in the malady a complication from cerebro-spinal meningitis was feared, so pronounced and grave were the cerebral manifestations. Here also the "biological" analysis of the urine furnished useful indications. In this latter case Dr. Semmola administered iodide of potassium, which he considered an excellent therapeutic agent in certain infectious maladies.—*Lancet.*

Medical Notes in a Case of Siberian Penal Flogging of One Hundred Lashes with the Knout.—A recent number of the *Lancet* contains a paper by Benjamin Howard on this subject, which is a curious mixture of dramatic action with accurate medical observation. This writer was given the opportunity to study closely the condition and treatment of a criminal so punished by the Russian Government. The convict, male, aged thirty-two, was examined by the post-surgeon and the writer for the evidence of the presence of any organic disease. The culprit was pale and anæmic; otherwise he was in fair health. He was placed face downward on a table fourteen inches high, and fastened by straps, so that it was impossible for him to move. His entire back, buttocks, and thighs were bared. The knout, a whip with a short, thick handle of wood, had a thong twelve feet in length, terminating in three tails, each tail ending in a stout knot. The official flogger, at the word of command, brought the three tails with great skill down upon the buttocks with sharp recoil, shouting "one." This was responded to by a sub-officer, who entered the

number at the same moment in a book. Until the fifth stroke, the appearance of the parts struck was as if fifteen strips of white paper had been pasted across them, so thoroughly did the blows expel the blood at the point of contact. From this time forward blood spattered, until the whole surface of the buttock was covered with it. At the fiftieth stroke the flogger changed sides, so that the two buttocks which were alone struck were made to bear the violence equally. Before the fifty-first stroke the surgeon felt the pulse of the convict, when, if he deemed it necessary, the remaining fifty strokes would have been postponed. During the first thirty strokes, and until the skin was generally detached, the screams of the convict were all that he could make them. They gradually diminished until the flogger changed sides, when they were reawakened; but at the sixtieth stroke they subsided into groans. On being unstrapped, the patient was carried to the hospital, where his wound and himself received as much care as if he had met with an accident for which he was not responsible. On admission, the pulse was 120 and very weak; the temperature, 99.5° F. The treatment was cold-water dressing and the internal use of stimulants. The pulse, temperature, and appetite improved gradually. As to the wound, by the third day all the loose shreds of integument and cellular tissue had become gangrenous, for which antiseptic applications were applied. The continuous use of antiseptic poultices yielded a fairly clean wound by the twelfth day. Its area was fifteen inches by ten; its depth, which invaded the muscular tissue, varied from half an inch to an inch. It looked much like the wound from an exploded shell. The writer suggested skin-grafting, which was done with success. Howard, bearing in mind the alleged former fatality of flogging in the English army, inclines to attribute the smaller percentage of mortality in Siberia to the difference in the position of the culprit. In England the culprit was tied to a post—*i.e.*, he was perpendicular—while in Russia, as at Eton, his head is always lower than the heart and part flogged—*i.e.*, he is horizontal—a difference of great importance when threatened death from syncope is induced. The writer concludes with a tribute to the humanity and skill of the Siberian penal surgeon.

The Association of Surgeons to the Pennsylvania Company.—The regular annual meeting will be held in Chicago, at the Grand Pacific Hotel, October 20, 1891.

The Inter-Continental American Medical Congress.—The Committee on Permanent Organization of the Inter-Continental American Medical Congress will meet at the Lindell Hotel, St. Louis, October 14, 1891. It is intended at this meeting to, 1, adopt a constitution; 2, elect permanent officers, domestic and foreign; 3, select time and place of meeting. Members of the Auxiliary Committees of the different States are invited to be present. Charles A. L. Reed, M.D., *Chairman;* J. W. Carhart, M.D., *Secretary.*

The Mississippi Valley Medical Association will meet in St. Louis at the same time.

Mosquito Bites.—A writer in a German contemporary says that for mosquito bites he has found in his own person nothing better than ordinary soap. He resides in Africa, and always carries a small piece of soap with him on his country expeditions. If he is bitten, he makes a lather over the affected part, and allows it to dry on. The burning is at once relieved, and all pain soon ceases. The application can be repeated as often as desired.

Tapeworm in a New Rôle.—Professor Paramuchi has reported a case of puerperal fever in which a very unexpected cause was brought to light—that is to say, the putrid remains of a tapeworm in the uterus. No untoward symptoms seem to have occurred until the tenth day after delivery, when the patient became feverish and prostrate and lost her appetite. The lochial secretion was very foul. Large doses of quinine were ordered, but no effect was produced on the temperature, which the next day was 104.2° F. The uterus was consequently washed out, two catheters being used for the purpose, as a regular uterine instrument was not at hand. The outlet catheter, after discharging some very fetid fluid, was choked up by what was found to be a putrid tapeworm. This was of course removed and sublimate irrigations given, and the symptoms soon disappeared. Regarding the question of how the tapeworm came to be in the uterus, inquiries elicited the fact that a few days before her confinement the patient had been suffering from dysenteric symptoms, and, in view of her condition, had not taken any medicine. It is probable that the worm managed to migrate after delivery from the rectum to the vagina, and that there it died and became putrid.—*Lancet.*

The Pure and the Impure.—Ricord, the syphilographer, an American by birth, seems to have led such a species of double existence as to have presented differing aspects to different persons. Dr. Oliver Wendell Holmes says that he was "the Voltaire of pelvic literature—a sceptic as to the morality of the race in general, who would have submitted Diana to treatment with his specifics and ordered a dose of blue pills for the vestal virgins." Mr. Gayerre, of New Orleans, wrote in 1887 some reminiscences in which he said: "Ricord, at the time, was a bachelor, and I believe has never married. What was my astonishment, when I entered a very large bed-room, of which the walls, from the high ceilings to the floor, were covered with none but magnificent oil paintings, representing sacred subjects. At the head of the bed was a sculptured oak priedieu, on which there was a superbly illustrated copy of the Gospels that was lying open. There was a red velvet cushion to kneel on at the foot of the priedieu, surmounted by a beautifully carved ivory Christ on a gilded cross. After a little while I was led to the presence of the medical philosopher, who habitually seemed to delight in being a cynical unbeliever. Guessing at what had passed in my mind, he said, with a laugh not unmixed, I thought, with some embarrassment of manner, 'You are surprised, are you not?' 'Certainly,' I replied; 'who would not be? Faith! my first impression was that I had been introduced by mistake into the bed-chamber of the Archbishop of Paris.' 'Well! well! my friend,' he said, in a half jocose and half serious tone, 'I hear and see so many unclean things during the day that on retiring at night I like, before going to sleep, to refresh my eyes by looking round on holy objects.'"—*Medical Standard.*

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HEALTH RESORT SUPPLEMENT.

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Winter Health Resorts of North America.

BY AIMÉE RAYMOND, M.D.,

NEW YORK.

AT this season of the year many physicians are confronted with the problem of choosing a suitable place to which they may send patients whom it is found best to exile from home. North America offers a large and varied choice, from the bracing, tonic air of high latitudes and altitudes, to the mild, relaxing air of Southern climates. The following pages have been prepared with a view to placing before the busy practitioner a few facts in regard to these different winter resorts. They do not claim to be exhaustive, but having been largely compiled from the reliable statements of the various local physicians who kindly lent their aid, they give data which in large part, we believe, have never before been published.

Careful inquiries have been made, not only as to the climate and sanitary conditions of the various resorts, but also in regard to the comforts of life and the occupations and diversions offered, since the latter have often an important bearing upon the well-being of the patient. Owing to the number of resorts considered, and the consequent need of brevity, rhetorical verbiage has had to be omitted, and the facts have also been presented without deductions, leaving each physician to draw his own conclusions therefrom.

A word of warning may not be out of place. Invalids going to southern climates often forget that even in semi-tropical countries there is apt to be variability of temperature, that in some places, although the days are warm the nights are chilly; that in others, although a storm may be a rarity, yet it is a possible occurrence. Thus, leaving all their warm clothing at home, they find themselves unprepared for sudden changes, in consequence of which they often contract severe colds which aggravate their existing disease, if, indeed, they do not initiate new maladies. Too many patients are sent from the comforts of home and the sympathy and care of friends, at an advanced stage of pulmonary or other disease, only to die among strangers. The physician can scarcely be too careful in exercising discretion as to the class of patients for whom a change of climate is deemed desirable, and also as to the choice of a suitable locality. As Dr. Bushrod W. James very justly observes: "The prescriber of climate must learn to individualize his prescriptions, not alone in regard to the disease, but more particularly in respect to the patient, for every victim of a given disease, such, for instance, as pulmonary phthisis, will not do equally well in the same climate; hence, in prescribing, the temperament of a patient and the nature and stage of his malady must be considered."

NEW YORK STATE.

The Adirondacks.—At Saranac Lake Village, the "most beautiful and healthful section of the wilderness," the Riverside Inn and several boarding-houses are open all winter for the especial accommodation of invalids. The Hotel Ampersand will probably be closed this winter. At an altitude of eighteen hundred feet, the air is pure, dry, cold, free from dust, and invigorating. The mean winter temperature is +20° F., and may fall to 30° F. below zero. A rainy season occurs in November. The soil is sandy, with occasional loose rocks, and the drainage excellent; the town sewage is disposed of in the river and cesspools; the drinking-water comes from springs, and from the river above the village where there is no danger of contamination. In pulmonary and all forms of tuberculosis, in anæmia, gastric disorders, and general debility this pure, bracing air has many times proved beneficial and curative; it is, however, contraindicated in spasmodic asthma and some forms of neurasthenia.

The mountainous scenery, at all times exceedingly beautiful, is even more so in the winter under the magic touch of the frost. Good sleighing, snow-shoeing, skating, tobogganing and other winter sports invite the invalid to beneficial out-door exercise. Hamilton Mabie says of this place: "Its elevation, its sandy soil, its vast environment of forest, full of spruce and pine, and the dryness of its atmosphere make this region a natural sanatarium to which the victims of lung and throat disease are drawn in increasing numbers. The health-seekers usually number from fifty to seventy persons. A more aggressively active set of persons is probably not to be found the world over. Four or five hours a day in the open air in all kinds of weather serve the double purpose of securing an abundance of pure air and stimulating a vigorous appetite."

The railroad station is in the village; there are two telegraph lines and a daily mail. At the hotel, which is provided with an elevator, gas, steam-heat in the halls, fire-places in the rooms, and all other modern conveniences, board may be obtained from $17.50 to $30 a week; at well kept boarding-houses, from $14 to $20 a week.

NEW JERSEY.

Lakewood is situated in the midst of pine forests, and in the vicinity of two lakes, one of which is two miles long, and affords good boating and fishing. The air is

fresh and invigorating, dry, free from the rawness of sea air, and laden with the odor of the pines. The mean temperature for the past ten years has been 54.50° F.; highest, 104° F.; lowest, 0° F., and may at any given time be considered about ten degrees above that of New York. There are no very high winds, owing to the shelter afforded on every side by the forests of pines. The soil is a heavy sand and gravel, drying quickly after rain, yet causing no dust. There is natural irrigation. The town sewage empties into Metedeconk River below the lakes. The town is supplied with pure, soft water, which comes from the lake, and after passing through charcoal filters is pumped into the stand-pipe. There are no mineral springs, but there is a spring of water of excellent quality, containing of total solids per gallon only 1.026 grain.

Sanitariums provide special douches and other curative appliances.

The air is said to have a specially beneficial influence upon affections of the throat and lungs, nasal catarrh, and kidney troubles. Convalescents from acute diseases and sufferers from numerous chronic ailments also find it a suitable place in which to gain strength. In evidence of the prophylactic effect of the dry air, impregnated with the pine odor, is the fact that in a section of New Jersey covering over 550 square miles, and containing a population of 14,475, the number of deaths from 1883 to 1889, was 1,057, and of phthisis, 141, or 1.60 per thousand per year, while in New York State they are 3.56; in Massachusetts, 2.60; in rural England, 2.30; and in Switzerland, 1.80.

The railroad facilities are excellent, there is a post-office, and telegraph and long-distance telephone station. There are four hotels, with accommodations for 1,700 people, excelling in comforts of all descriptions, at prices from $4 to $10 per day. At the numerous good boarding-houses prices range from $1.50 to $5 per day. The roads are good, and horses and vehicles obtainable. During the winter there are weekly dancing sociables or hops, musical, dramatic, and literary entertainments at the hotels.

Long Branch, which is usually regarded as a summer resort, offers advantages as a winter refuge also to those who wish to escape from the rigors of a northern climate without travelling a great distance. Only seventy-nine miles from New York City, the mean winter temperature is 50° F., which is considerably higher than that of Atlantic City and only a few degrees less than that of Lakewood. The lowest temperature is 10° F. above zero. The air is moderately dry and bracing, the prevailing southerly breeze is often as warm in winter as in any except the hottest summer days. The soil is a sandy loam and sand, porous, and dries quickly after rain. The town sewage is passed through the sewer works, "filtered, chemically disinfected, rendered chemically purer than some drinking-water, and passed out into the Atlantic Ocean." The drinking water is excellent. Cases of anæmia, malaria, paralysis, fevers, or any blood dyscrasia, neurasthenia, lung and heart troubles, kidney diseases, cutaneous affections, whooping-cough, and chronic bronchitis may be sent to Long Branch.

The place is very accessible, and the postal and telegraphic facilities are as good as in any city of its size. Excellent hotel accommodations can be had for from $1 to $5 per day, $10 to $25 per week. Good roads, with every facility for riding and driving, through a picturesque country, a library, boating, fishing, swimming, bathing, and hunting will serve to relieve the tedium of exile from home.

Atlantic City, situated upon Absecum Beach, presents many attractions to invalids. The air is pure, rich in ozone, and somewhat moist, the usual per cent. of humidity in winter being 79 6. The vicinity of the Gulf Stream renders the climate comparatively mild. The mean temperature for the three winter months, deduced from records of fifteen years' observation, is 34.4° F.; the highest for the same months for 1888–89–90 is 71° F., and the lowest 2° F. There is no actual rainy season, the precipitation being well distributed throughout the entire year. The soil is sandy, and there is little dust. The drinking-water is supplied from artesian wells and springs which are far inland, and is considered extremely pure. The town sewage is disposed of by the "West" system. A number of establishments exist in which special douches, massage, and electricity are administered.

The patients especially benefited by a sojourn here are those suffering from brain, spinal, and nerve troubles, and diseases of the liver and kidneys. In the opinion of some, the air is not helpful in pulmonary tuberculosis.

Atlantic City is easily reached, being a railroad centre, and the postal and telegraphic facilities are all that could be desired. The city has a resident population of fifteen thousand; there are more than five hundred hotels and large boarding-houses, prices ranging from one to ten dollars per day. The roads are good, and horses and carriages obtainable. A board walk, twenty-four feet wide, extends for three miles along the beach. The society is excellent, and there are churches of all denominations. The sailing, fishing, and hunting form a feature attractive to many, while others find entertainment in the Opera House and other places of amusement.

Cape May, at the extreme southern point of New Jersey, while best known as a summer resort, is now being sought in the winter as well.

MARYLAND.

Annapolis is not usually considered a health resort, yet it is a pleasant stopping-place, in which patients with nervous diseases seem to derive benefit. The climate is mild (mean winter temperature, 50° F.; highest and lowest in the same season, 71° and 19° F.), the air balmy, pure, and moist. The city is well situated, and the roads are good. The Naval Academy, St. John's College, and the theatre, afford entertainment. Baltimore is distant fifty minutes by rail.

VIRGINIA.

Norfolk, twelve hours distant from New York by rail, and twenty-one by water, is a city of nearly forty-two thousand inhabitants. The climate, owing to the proximity to the ocean and Gulf Stream, is moist, mild, and equable. The mean winter temperature is 42° F., which has fallen to 13° F., or less, five times only in eleven years, continuing at that point but a short time. A. J. Davis, of the Weather Bureau, states that the daily and mean daily range are less for that locality than for any place he has observed in ten years of observatory work. The usual per cent. of humidity in the winter is seventy-five. Wind-storms are rare. The soil is a sandy loam, with a substratum of clay two to four feet below the surface. The Waring system of sewerage is in use. The drinking-water, obtained from lakes and ponds five to eight miles distant and from cisterns, is soft and pure. There are few mineral springs. One known as Hayne's Lithia is excellent and potable. Bathing may be had at *Virginia Beach* and *Ocean View* near by, and at *St. Vincent de Paul*. House, Turkish, and Russian baths, and special douches are obtainable, and there are two neat and well-equipped hospitals. The climate is considered especially beneficial for the "pectoral diseases of the inhabitants of the New England States."

Nine or ten railroads and as many water lines render the city accessible, the mail is collected and delivered five times daily, and there are several telegraph lines. Board at good hotels, $1.50 to $2.50 per diem; $35 and upward by the month.

The diversions offered are drives over good roads, partly composed of shell, in a level but well-cultivated

country, excursions by water to Old Point Comfort, Hampton Navy Yard and Station, by rail to Ocean and Bay Shores; boating, swimming, fishing, gunning, a public and circulating library, Academy of Music, and Opera House.

Virginia Beach, which is situated upon the coast immediately below Cape Henry and about ten miles southeast of Norfolk, is a resort very popular with the Southern people. While frequented chiefly in the summer, it is available as a winter home, the climate being of course very similar to that of Norfolk. The Princess Anne Hotel, which is open all the year, is a large and deservedly popular house.

Old Point Comfort possesses a delightful climate, especially in the autumn and spring. The average temperature in winter is between 42° and 45° F. The air is peculiarly rich in ozone and possesses both tonic and restful properties. Its famous hotel offers every comfort at $3.50 per day, $15 to $20 a week. Fortress Monroe, the largest fort in the United States, is about one hundred yards distant, and is always open to visitors. Here is established the artillery school, which by dress parade and open-air concerts adds greatly to the attractions of the place.

Within easy driving distance is the well-known Hampton Normal and Agricultural Institution, in which colored boys and girls receive a good education designed to fit them for teaching their own race.

Newport News, about eight miles from Old Point Comfort, is constantly growing in popularity as a winter resort. The scenery is very attractive, the junction of the James River with Hampton Roads, giving one a fine expanse of land-locked waters, across which may be seen Old Point Comfort, the Soldiers' Home at Hampton and Norfolk. The air is pure, invigorating, and rather moist. The soil is sandy, the sewage carried through underground sewers into the river some distance from the town, the drinking-water comes from wells and is pure in quality.

Sufferers from rheumatism and pulmonary complaints derive benefit from the climate. There are all conveniences and many entertainments in the place, at the Bowling Hall and Casino, where there are special alleys and billiard-tables reserved for ladies. The fishing and boating are excellent, deer and other game can be found near by. Price of board at chief hotel $2 to $4 per day, $10.50 to $21 by the week; $1 to $3 a day at other hotels.

NORTH CAROLINA.

Asheville, in the valley of the French Broad, at an altitude of two thousand three hundred and fifty feet, is surrounded by some of the most beautiful mountains in America, and possesses a cold, dry, and bracing climate. The mean winter temperature is 48.96° F.; mean maximum, 59.30° F.; mean minimum, 38° F.; highest, 74° F.; lowest, 18.74° F.; mean daily variation, $5\frac{71}{100}$° F. Of ozone there is about sixty per cent. of the possible amount. There are on an average twenty-four clear, fair days out of every month. The per cent. of humidity in the winter is 62. Asheville is well sheltered from the wind.

The soil is a mixture of clay, sand, and mica, with a sandy subsoil, there is little dust, and the natural drainage is excellent. The sewage is conducted outside of the town and emptied into the French Broad River. The drinking-water comes from the Swananoah River, is pumped over the mountain to a stand-pipe, and passes through Hiatt filters before reaching the consumer.

At the Belmont Hotel are sulphur springs, containing in each U S. gallon:

	Grains.
Hydrogen sulphide	1,813.70
Sodium sulphide	.43
Sodium chloride	.15
Total	1,814.28

and chalybeate springs, giving in each gallon:

	Grains.
Carbonic acid	5.65
Carbonate of iron	3.86
Bicarbonate of calcium	.74
Bicarbonate of magnesia	5.71
Sulphate of calcium	.12
Sulphate of magnesia	.18
Chloride of sodium	2.46
Silica	.61

There are good bath-rooms.

Those seeking Asheville are such as derive benefit from a cool, dry climate, sufferers from chronic pulmonary troubles, catarrhal and tubercular affections of the upper air-passages.

The town is situated on the railroad and possesses good postal and telegraphic facilities. It is a city of 12,000 inhabitants, has a number of first-class hotels, and a special institution, "The Winyah," for tubercular patients, with "unexceptionable sanitary conditions, disinfection of everything that comes in contact with a sick person, special diet, etc." Price at hotels ranges from $15 to $25 per week, and is lower at boarding-houses.

There are pleasant drives and excellent livery facilities at moderate prices.

The French Broad River offers fishing, boating, and swimming (when the temperature allows), and there is hunting as well. With a free public library, an opera-house and social amusements, the invalid's mind has little excuse for preying upon itself.

The Hot Springs, whose waters were used by the Cherokee Indians more than a hundred years ago to cure rheumatism and kindred diseases, are about thirty-seven miles from Asheville. The temperature of the water is from 96° to 100° F. and the analysis is as follows in one U. S. gallon of 231 cubic inches:

Chloride of sodium	1.0827
Chloride of potassium	0.6192
Sulphate of potassa	1.6168
Sulphate of lime	20.0416
Sulphate of magnesia	7.2001
Bicarbonate ammonia	traces
Bicarbonate lime	9.0196
Bicarbonate iron	0.1012
Phosphate of soda	traces
Alumina	0.0385
Silica	3.1434
Organic and volatile matters	traces
Total	42.8631

There is also a strong iron spring. For the winters of 1887 to 1888, from November to April, there were one hundred and fifty clear, fair days, and thirty-two cloudy or rainy ones, while the average mean temperature was 46.9° F. and the humidity .707. In January and February the maximum temperature is 73° F., the minimum 15° F., which, however, is very rarely reached. The air is dry, pure, charged with ozone and laden with the pine odor. At an altitude of thirteen hundred and thirty feet the springs are in a valley and sheltered from high winds. The soil is porous, the sewage empties directly into the river. The drinking-water comes from springs up in the mountains. Sufferers from rheumatism, malaria, bronchitis, neurasthenia, dyspepsia, liver and kidney complaints and pulmonary tuberculosis find the air and waters beneficial. There is an extensive bathing establishment, with marble pools, and in the hotel bathing-rooms and pools and appliances for medical treatment—douches, packs, fomentations, electricity, hot air bath, massage, and Swedish movements.

The railroad, postal, and telegraph facilities are good, the hotel excellent; prices $3 to $4 per day, $20 to $30 per week. A livery stable furnishes carriages and horses, so that those inclined can make excursions along the mountain roads, while from a glass-enclosed veranda one quarter of a mile long those not wishing out-door exercise, can still enjoy a view of the scenery which is charac-

terized as grand. Amusements are provided daily; a library is to be formed; there is no boating on the French Broad River, but some fishing and some shooting in the country around, while swimmers can exercise in a pool one hundred feet long by thirty wide.

Southern Pines, near the centre of the State, about five hundred miles south of Raleigh, is built upon a sandy ridge at an altitude of six hundred feet, and surrounded by forests of the long-leaved pine. The air is mild, pure, charged with ozone, and dry and balsamic, the mean winter temperature being 48.9° F., the highest and lowest in the winter months 81° and 20° F. respectively. The soil to a great depth is pure sand; the drinking-water is obtained from natural springs and is of remarkable purity. The sewage is disposed of by the dry earth system, and the whole sanitary condition of the town is under the surveillance of a Board of Health Commissioners. The diseases for which the climate of Southern Pines is recommended are bronchitis, asthma, phthisis, neurasthenia, insomnia, malaria, kidney and bladder troubles. One physician in writing of the place rather quaintly observes: "A person suffering with asthma lies down flat on his back and goes to sleep like a Christian."

The railroad and postal facilities are good. There are four hotels where board may be obtained from $1.50 to $2.50 a day, and less in proportion by the week.

Out-door sports and exercise, drives, walks in the pine forests, visits to the turpentine distilleries and good quail and rabbit and fox hunting are the diversions of the place. Deer are plentiful a few miles away, and there is fishing in streams from five to ten miles distant.

Morganton, at an altitude of eleven hundred and eighty-four feet, is situated on the slope of the Blue Ridge, commanding a very fine view of four mountain chains. The mean winter temperature is 42.5° F.; the highest, 73° F.; lowest, 10° F. The air is pure, dry, and bracing, so free from bacteria that open wounds heal kindly without antiseptic precaution. There are no high winds. The soil is red clay; sewage disposed of by natural drainage in open drains; water obtained from wells in the town, and springs in the country, a pure, freestone water. Several springs yield tolerably strong chalybeate waters. Board, $20 to $30 per month in private boarding-houses. Railroad, postal, and telegraphic facilities, livery stables, a library, and good quail shooting add to the attractions of the place.

The air is beneficial in malaria, pulmonary diseases, and catarrhs of the air-passages.

The Glen Alpine Springs are fifteen miles west of Morganton, at an elevation of eighteen hundred feet. There are three springs, and the place would seem to possess many attractions, but as yet the hotel is kept open only in the summer.

SOUTH CAROLINA.

Charleston.—This, the largest coast city of the South, has been variously styled the "Nice of America," the "Venice" and the "Newport" of the South. It has a commanding view of the ocean; while in the harbor and along the banks of the two rivers, the Ashley and the Cooper, at whose confluence it is situated, are many scenes of historic interest. Fort Sumter and Fort Moultrie are two of the four forts which guard the entrance to the inner harbor.

The climate is mild and genial, the mean winter temperature being 52° F., and the lowest 30° F., not subject to the sudden variations of the Northern States. The air is pure, coming directly from the ocean, rich in ozone and moist (mean per cent. of humidity 74). The rainy season is in the autumn, while the winter days are usually bright and sunny.

The soil is alluvial, the land irrigated, and there is little dust. Frequently cleaned cisterns, and two artesian wells supply the town with drinking-water.

Sewage vaults are cleaned annually, and the sewage used as a fertilizer.

There is sea-bathing in bathing-houses off the Battery, and on Sullivan's Island. Special douches and curative appliances are found in the three large hospitals under the care of the faculty of the South Carolina Medical College.

Certain cases of pulmonary tuberculosis are benefited by a stay in Charleston, while delicate persons not actually invalids find it a pleasant place in which to seek refuge from a colder climate.

The comforts of civilized life are, of course, to be found in this city of sixty-five thousand inhabitants. The hotels are good, and prices range from $2 to $5 a day. There are many objects of interest to the visitor, among which are the City Hall, which contains some interesting portraits; the Post Office, dating from 1761; the new Custom House; the Academy of Music; St. Michael's church, built in 1752, and St. Philip's, the first church established in Charleston, in whose graveyard are found names of greatest interest.

The "phosphate mines" will well repay a visit, as will Magnolia Cemetery; in fact many beautiful excursions may be made from this city. A large library and a historical society furnish interesting occupation to the intellectual; riding, driving, boating, fishing, swimming, and hunting afford opportunity for out-of-door sports, while regattas, theatres, and concerts entertain those who may wish to be amused without great outlay of personal effort.

Summerville.—Invalids preferring an out-of-door country life to that of a town, yet desiring to be within reach of a city, may find Summerville desirable. This place (which is twenty-two miles from Charleston) was endorsed as a resort for the cure of throat and lung disorders by the Tuberculosis Congress in Paris, three years ago. The air is dry and filled with the odor of the pines; and has a mean winter temperature of about 50° F. The average rainfall for the past nineteen years has been 56.76 inches; February and March are apt to be the most rainy months. Its altitude is seventy feet, it is completely sheltered from winds and not dusty, the soil being sandy and porous with a clay subsoil. Surface drains running into a rapidly flowing stream dispose of the town sewage. The drinking-water is at present obtained from surface wells, but two artesian wells will soon furnish an adequate supply of pure water. Pulmonary affections, catarrh, and asthma are the indications for a residence at Summerville. Eight trains run to and from Charleston daily, there is a post-office with money-order department and telegraph communications. A new hotel offers every modern appliance for comfort; while rides, drives, visits to Charleston, botanizing, and hunting are available for recreation. Deer, foxes, quail, doves, and turkeys are within easy reach of the sportsman. The scale of prices at the hotel have not yet been fixed; at private houses board may be had for $8 to $12 a week.

Aiken is so well known as a winter resort that its description seems almost superfluous. For many years physicians have sent there convalescents from tedious diseases, sufferers from overwork, or asthmatic and phthisical patients. The "season" is from November to April inclusive. In the "American Appendix to Parke's Hygiene" we find it stated that "a physician of large personal experience has given his opinion that sojourning in Aiken through December and part of January, and then going back to it in March, on the way homeward after a tour through Florida during the latter half of January and the whole of February, is a programme which suits most consumptives better than a continuous residence for the winter in either one or the other of these places. An important consideration to invalid tourists is that malarial diseases are nearly or quite unknown among the inhabitants of Aiken."

The air is dry, bracing, and balsamic. Pine forests on

the north shelter the place from winds. The mean temperature in the season is 51.6° F., the highest and lowest annual temperatures, 86° and 22° F. The per centage of humidity in the winter is 58. The altitude is about five hundred and sixty-five feet. A porous sandy soil, slightly admixed with clay, ensures rapid drying of the streets after rain. There are no water-works in the town, and consequently no drains; sewage is used as a fertilizer. The greater part of the drinking-water comes from springs, or from wells one hundred to one hundred and twenty feet deep, but a few families use cistern water.

In some forms of neuralgia a residence at Aiken is contra-indicated. For accessibility (thirty-six hours from New York), postal and telegraphic facilities, hotel and boarding-house accommodations, few winter resorts can surpass this place. The scenery offers no attraction in the way of mountains, lakes, or rivers, but the pine-woods have their own charm, and the quiet restfulness of the spot is not without its influence upon the overtaxed brains and strained nerves of the invalid suffering from what has been characterized by a European physician as "Americanitis." The diversions afforded to invalids are driving and riding, polo, hunting, out of-door games, and music during the season.

Board is $18 a week and upward at hotels, less in private houses.

Columbia, the State capital, containing about seventeen thousand inhabitants, is considered one of the most beautiful cities of the South. Situated on the bluffs of the Congaree River, its altitude at the highest point is four hundred and seventy-five feet above the level of the sea. The mean winter temperature is 52° F., highest 78° F., lowest 22° F. The air is dry, rich in ozone, tonic and bracing, without being exciting or too stimulating. High winds are rare. The soil is sand and clay, naturally well drained. The water supply comes from the river, supplemented by spring water collected in reservoirs. The town sewage is carted beyond the city limits. Phthisis, scrofular diseases, rheumatism, and gout are often benefited by a residence in Columbia.

The city is a railroad centre and possesses all postal and telegraphic facilities. There are three good hotels, in which board is from $2 to $3 a day, and less in proportion by the month. Riding and driving are facilitated by good roads and carriages easily obtained. The city is an educational, legislative, and judicial centre; there is a college library of forty thousand volumes; hunting is excellent, birds being abundant, and with pleasant walks and drives, dramatic entertainments, balls, etc., it would seem that a variety of occupation and entertainment is afforded to the resident invalid.

Camden, a town founded in 1750, lies in the midst of an undulating pine-clad country. In 1876, Dr. Willard Parker, Jr., wrote of it in the MEDICAL RECORD as follows: "Owing to the peculiar nature of the soil, all moisture is almost immediately absorbed, so that the air is remarkably dry. As regards temperature, while as throughout the entire South there are a few cold days, we find none of that extremely penetrating cold experienced in places nearer the seaboard; nor, on the other hand, do we have any of that excessively enervating heat met with in the places farther south. The pine-trees and turpentine stills in the vicinity give the air a terebinthine odor most soothing to those harassed by cough. Never have I met with a more refined or cultivated society." The social conditions are materially the same as they were then.

The mean winter temperature is 46.82° F. A high range of sand-hills affords protection from the winds. A porous soil, a good system of sewerage, and pure drinking-water fulfil the necessary hygienic conditions.

Sufferers from asthma, bronchitis, catarrh, tuberculosis and nervous troubles derive marked benefit from a stay in this interesting and delightful spot.

The Hobkirk Inn gives excellent accommodations for from $15 to $25 a week. Riding and driving, fox and deer-hunting, quail-shooting, fishing and boating on the lake or river, and frequent musical and dramatic entertainments at the opera-house are the diversions afforded at Camden, while the tonic air stimulates the invalid to a full enjoyment of life.

Spartanburg, ninety-three miles from Columbia, a popular summer resort, is also, by reason of its dry, cool, invigorating air, an excellent winter resort for those in some stages of pulmonary affections as well as for the unfortunate victims of malaria. The city is on a ridge about eight hundred feet above the level of the sea, and possesses natural drainage of an excellent character.

The drinking-water is obtained from wells, and from a clear, pure stream. A chalybeate spring is in the city, and iron and sulphur springs (Garrett's) in the suburbs. The well-known *Glenn Springs*, twelve miles distant, yielding strong sulphur water with magnesia, calcium carbonate, chloride, and sulphate, are considered very beneficial in dyspepsia, scrofula, and some forms of rheumatism.

Spartanburg is on the railroad, and possesses all facilities for communication with other localities. The hotels and boarding-houses give fair accommodations for from $15 to $30 a month. The drives are pleasant, and the livery stables good. There is a public library and an opera-house. The partridge-shooting is excellent.

GEORGIA.

Brunswick, a town with a population of about 10,000, is situated upon a peninsula, and therefore almost surrounded by salt water, while it is protected from the bleak northern winds by hundreds of miles of pine-forests. The climate is mild, equable, and moist, with a mean winter temperature of about 60° F., the lowest being 38° F.

The soil is alluvial; the sewage at present is disposed of in a crematory, but an improved system of sewerage is to be adopted this winter. Artesian wells three hundred to four hundred feet deep furnish the drinking-water.

Nervous diseases, chronic glandular affections not tubercular, most forms of dyspepsia, hay fever, rheumatism, some cases of conjunctivitis, and some forms of asthma are benefited by the climate, while phthisis pulmonalis and all cardiac affections constitute contra-indications for a sojourn.

All the conveniences of life are to be found here. The hotels are good ($2.50 to $5 per day), roads excellent, livery-stables good and reasonable in their charges. All water sports can be enjoyed, and modern Nimrods will find venison, turkey, quail, woodcock, snipe, and duck in their season. There is a library association and a theatre.

Augusta, about seventeen miles from Aiken, S. C., possesses a very similar climate. The air is dry and balmy, the thermal variations not marked, and the days in winter are usually sunny. It is sought by many for pulmonary complaints and for nervous exhaustion.

The city dates from 1735, and possesses many points of interest. It is well built and beautiful, with broad shaded avenues and handsome private houses. Broad Street is one hundred and sixty-five feet wide and two miles long. Green Street is a trifle wider, and has a double row of trees down the centre, with a single row along each sidewalk, "forming a lovely greenwood aisle which passes along between two ample and high arched avenues."

There are some handsome buildings in the town, and the water-works, which were most expensive in construction, are of special interest.

At the hotels rates are from $2 to $3 per day. At private boarding-houses from $5 to $10 a week.

Savannah, the "model southern city of Georgia," is famed for its beauty, comfort, and healthfulness. It is situated upon the Savannah River, eight miles from its mouth. The climate is mild, equable, and delightful, especially in the winter. Mean annual temperature, 66° F.

Very few of the fevers prevalent in Southern latitudes are to be found in this city; the air, moreover, is considered beneficial to phthisical patients. Sidney Lanier says of the town: "There are wide and symmetrical streets, generous and frequent squares, lavish adornment of grasses, flowers, and magnificent trees, which appear to render into material form the liberal and manly tone of Oglethorpe's inaugural management. The residences, many of which are beautiful, appear to withdraw themselves from observation and to hide behind their wide piazzas and balconies, which are enclosed with venetian blinds."

In point of accessibility, postal and telegraphic accommodations, comfortable hotels ($2 to $4 per day), drives, and diversions of all kinds, Savannah leaves little to be desired.

The points of interest in the vicinity are many. *Thunderbolt*, a popular driving resort, is reached by a fine shell road; *Bonaventure Cemetery* is celebrated for its magnificent avenues of moss-clad trees. *White Bluff* is also a favorite resort.

Warm Springs is situated on a spur of the Pine Mountain, at an altitude of eighteen hundred feet. The springs discharge fourteen hundred gallons of water per minute, at a temperature of 90° F.; they contain oxide of magnesium, calcium and iron, and carbonic acid, are tonic and alterative, and used in gout and rheumatism, and cutaneous diseases. Three miles distant is a cold spring, discharging an acidulous chalybeate water, while seven miles away are the *Chalybeate Springs*.

Indian Springs, in Butts County, yield valuable purgative waters, containing much sulphuretted hydrogen. They are used in dyspepsia of the sthenic type, engorgement of the liver, catarrh of the bladder, and rheumatism.

Madison possesses a spring which yields waters containing iron and sulphur, which have valuable tonic properties. The town is at an altitude of seven hundred feet, the air dry, pure, and bracing, and beneficial in bronchitis and asthma.

The Red Sulphur Springs, twenty in number, are found in a picturesque portion of the State. The air is mild. The waters contain sulphates of magnesia and soda, and sulphuretted hydrogen. Some of them are chalybeate.

The Catoosa Springs are chiefly chalybeate waters.

Thomasville, a town of about five thousand inhabitants, is situated in the most desirable portion of the pine belt, at the southern part of the State. Its altitude is three hundred and thirty feet; the climate is mild and the air laden with the pine fragrance, which comes to it from extensive forests composed of this tree alone. The soil is sandy; the water is obtained from an artesian well and is of excellent quality. The town is accessible and the hotels good.

FLORIDA

Suwanee White Sulphur Springs, on the Suwanee River, in the northern part of the State, is a resort frequented by the residents of Georgia and Florida. The country is healthy, and the waters said to be curative in rheumatism, gout, dyspepsia, and other diseases, for which sulphur waters are adapted.

The natural beauties of the place are great. A large hotel was built in 1883, and is open summer and winter.

Fernandina, the most northern seaside resort of Florida, is situated at the mouth of the Amelia River, about fifty miles north of Jacksonville. The winter climate is mild and equable, and the place free from malaria. Phthisical patients at an advanced stage of the disease do not do as well here as farther South.

There are good drives, and interesting excursions may be made in the vicinity. Hotel rates are from $2.50 to $3.50 a day, and accommodations are excellent. Board in private families from $6 to $12 a week.

Jacksonville, the largest city in the State, is much sought by phthisical patients, as it is easy of access and possesses excellent accommodations. It is situated upon the St. John's River, about twenty-five miles from its mouth. The mean temperature in 1880 was, in the month of November, 61.2° F.; December, 52.2° F.; January, 52.7° F.; February, 57.9° F.; March, 59.5° F.

There are many clear days in the winter months, and the air is rendered healthful and invigorating by the odor from the adjacent pine forests. The sewerage system of the town is good, and the drinking-water is supplied from artesian wells.

Railroad, postal, and telegraphic facilities are good, and there are many hotels and boarding-houses in the city, prices ranging from $1 to $5 per day at the former, from $8 to $20 per week at the latter.

The city itself possesses many points of interest, and many opportunities for recreation. A permanent subtropical Exposition was opened here a few years ago.

Pablo Beach, a new seaside resort near Jacksonville, is deservedly popular on account of the many attractions it offers in the way of out-door sports, such as hunting, bathing, fishing, and other amusements to be obtained within handsome pavilions built for the purpose. The beach is extensive, hard, and smooth. There is an excellent hotel, with cottages.

St. Augustine, the oldest settlement of European origin in the United States, is one of the best known and most popular of the Florida resorts.

The climate is mild, with a mean winter temperature of about 58.08° F., and yet the air is, like that of Jacksonville, too "strong" for phthisical patients who have passed the early stages of the disease. Asthmatic cases are benefited by a stay here, and the freedom from malaria is a marked feature of the place, the adjacent salt-marshes forming a protection from miasm. St. Augustine is also recommended to those who suffer from insomnia, overwork, neurasthenia, and to convalescents, especially children recovering from pneumonia, scarlet fever, diphtheria, and whooping-cough. Aside from its climate, the historical associations and architectural peculiarities of St. Augustine make it a most interesting city. One writer says of it: "Its record is full of thrilling events. No town in the United States has passed through so many ordeals of fire and sword. Its walls are cemented with the blood of its enemies and defenders. Four times within the last three hundred years it has been completely destroyed."

While no longer the picturesque old town with coquina dwellings, narrow streets, and quaint old houses, it still possesses many interesting features. The building material which has superseded coquina is a composition of sand, cement, and shells, which lends itself to decorative purposes. The sea-wall, three-quarters of a mile long, the ruins of the old gateway, Fort Marion, the old Cathedral, the Plaza, are all of interest to visitors. It is said that while the old town has been supplanted by the new, it yet retains a strong individuality and an indefinable charm, that it yearly grows more beautiful, more comfortable, and more luxurious.

The hotels and boarding-houses are numerous and excellent. One of them, the Ponce de Leon, which cost two million dollars, is the largest hotel in the world, and in itself constitutes an object of interest with its Moorish architecture, its rich appointments, the orange-grove upon its roof, its magnificent grounds, and its annex, the Alcazar, which contains large bathing-pools of sulphur-water from the artesian wells, and of salt-water from the bay. The Cordova, another large hotel, is of massive and beautiful architecture. It possesses a long sun parlor, for the use of invalids.

Daytona, on Halifax River, seems to possess climatic advantages, good water, and opportunities for out-of-door diversions. Mean winter temperature about 50° F. There are railroad, postal, and telegraphic facilities. Board, $1 to $3 a day.

Port Orange, on the same river, possesses a climate

identical with that of St. Augustine. It is a small town, as yet unimproved, but affording good boating and fishing.

Magnolia, on the St. John's River, is a much-frequented resort for invalids, especially the phthisical. The temperature is equable, the air mild and laden with odors from the groves of pine and orange trees. Rainy days are few; board at the hotel is $4 a day.

Green Cove Springs, three miles farther up the river, enjoys deserved popularity. The waters contain the chlorides of iron and sodium, sulphates of magnesia and lime, and sulphuretted hydrogen, and have a temperature of 76° F. The large flow of water is caught in a pool twenty-five feet by one hundred, and four feet deep, which is used as a swimming bath. Rheumatism, gout, neuralgia, and nephritic diseases are benefited by these waters. The soil is sandy and porous; sewers lead into the river, and the drinking-water is obtained from artesian wells. There are several hotels and boarding-houses in the place, at which board can be had from $10 a week upward. There is driving, bathing, boating, fishing, and hunting; and a library is connected with the Ladies' Village Improvement Society.

Palatka, situated upon a high plateau eighty-five miles up the river, is a town of from three thousand to five thousand inhabitants. Its mean winter temperature is 60° F., the lowest, 30° F.; there are no very sudden variations. The air is moist, the soil is sandy; there is little or no malaria here. The drinking-water is obtained from a spring, and is considered excellent in quality.

Rheumatism and some forms of pulmonary disease are benefited by the air of Palatka, but renal diseases form a contra-indication to a stay here. Railroad, postal, and telegraphic facilities are good, and the hotels are excellent. Rates are from $2 to $5 a day, and board at private boarding-houses, $10 to $15 a week. The St. John's River affords opportunities for boating, fishing, and swimming, and there is good shooting.

Welaka, twenty-five miles farther up the river is a pleasant resort.

Sanford is situated at an altitude of six hundred and sixty-five feet above the sea level, upon the shores of Lake Monroe. Mean winter temperature, 60° F.; lowest, 35° F. The air is dry and salt, rich in ozone; the soil sandy, and the land irrigated. The town sewage is disposed of by the dry method, the drinking-water is obtained from artesian wells. Mineral springs furnish water impregnated with sulphur, magnesia, and lithia; sulphur baths may be taken in pools or bath-tubs, and there are appliances for needle baths, hot sprays, douches, electricity, and massage. The climate is recommended for the forms of pulmonary disease requiring a mild, dry climate, for catarrh, asthma, hay fever, rheumatism, and general debility accompanied by nervous exhaustion. The hotels are good; $2 to $5 per day, $10 to $30 per week. Sanford is a railroad centre, with postal and telegraphic facilities. Lake Monroe and the St. John's River furnish boating and other sports, and good livery-stables allow of pleasant drives.

Enterprise, on the opposite side of the lake from Sanford, possesses a mild climate and is especially valued by rheumatic patients. It possesses a good hotel. *Green Spring*, whose waters contain sulphur, is but a mile from this place. South of Enterprise is an extensive hunting and fishing region. *Winter Park*, *Kissimee City*, *Barstow*, and *Lakeland* are all in this lake region.

Orlando is a favorite place of resort in the lake region south of Enterprise. The lowest winter temperature is 38° F. The air is moist and possesses the qualities of sea air, being blown across the narrow strip of land separating it from the ocean. The place is not subject to high winds. The soil is dry and sandy; the water is of good quality and pumped into the town from a lake that is fed from springs. The bucket system is in vogue for the disposal of the sewage, which is removed twice a week. Tuberculosis, bronchitis, catarrh and all diseases of mucous surfaces, rheumatism, and neuralgia are the ills for the relief of which patients seek Orlando. The place is on the railroad, receives the mail several times daily, and has two telegraph lines. There is one large hotel and several smaller ones, and boarding-houses. Prices are from $6 to $21 weekly. Orange-groves and tropical trees and shrubs characterize the surroundings, but an especial feature is the number of beautiful lakes, giving every variety of water sport. There is hunting as well, and while the roads are rather sandy, the drives are pleasant. There is a good livery-stable.

Titusville, on Indian River, a lagoon of the sea, is a small town, which is, however, on the railroad line, receives a daily mail, and has two telegraph offices. The mean winter temperature is 62.3° F., the lowest, 32° F., and is not liable to sudden variations. The per cent. of humidity in winter is eighty-five. The soil is sandy, the sewage carried out of the town limits, the water obtained from wells and cisterns. The spring water is strongly impregnated with salt and sulphur, and baths are obtainable in pools and in the river. There are three hotels and several boarding-houses. Prices are from $1 to $4 a day—less by the month.

Lake Worth, a new but delightful resort, consists of a cluster of houses upon a strip of land between the ocean and a lake. The air is pure, refreshing, and free from harshness, the Gulf Stream being only one mile away. Sufferers from rheumatism, from general debility caused by overwork, and from nervous disorders, will find this a charming place in which to regain their health. It does not offer the excitements or entertainments of a town, but this is compensated for by the quiet restfulness of the spot, the mild climate, the exquisite beauty of the luxurient and tropical vegetation, and the diversions afforded by rowing, sailing, still water and surf bathing, fishing, and hunting.

This place may be reached by steamer from Jacksonville or St. Augustine. There is a daily mail. The hotel Lake Worth and other hotels and boarding-places are excellent. Board ranges from $3.50 to $5 a day, with special rates by the week or month, and half the price is charged before January 5th, and after April 10th.

Key West, a town with a population of twenty thousand, upon an island of coral formation, is situated at the southern extremity of the peninsula, and possesses a climate which is said to be the "warmest and most equable on the eastern coast of the United States." The air is pure, and although moist, mists and fogs are rare. The mean winter temperature is 71.40° F.; highest, 90° F.; lowest, 41° F. It is subject to occasional brisk, cool, and dry, northern winds. The town sewage is at present removed by an odorless excavation system, but a system of underground sewerage is shortly to be introduced. Rain-water is used, gathered in cisterns from the rains. The climate is recommended in throat, bronchial, and lung difficulties.

Key West is reached by steamer from New York, Tampa, Galveston, New Orleans, and Havana. Mails are received three times a week, and there is telegraphic communication with all parts of the world. There are a number of hotels, at which prices range from $1.50 to $4 a day. There are good opportunities for water sports and hunting.

Gainesville, an inland town situated in the midst of a high rolling country, clothed with pine-forests, and luxuriant foliage, and abounding in small lakes, possesses a pure, pleasant, bracing, and moderately dry atmosphere. The mean winter temperature is 59° F.; highest, 84° F.; lowest, 31° F., in the same season. There are no high winds. Its altitude is two hundred and eighty feet, and the soil is sandy. The pail system, with removal of excreta beyond the city limits, is in use. Small springs and wells furnish the drinking-water, and an artesian well is in process of construction. In the water from the mineral springs sulphur is the predominating ingredient, but there is some iron and magnesia.

Pulmonary complaints are the ones especially benefited by the climate of Gainesville. Three railroads centre in the town, and mail and telegraphic accommodations are good. There are two first-class hotels, a number of smaller ones and boarding-houses. Prices $1 to $4 a day; in many of the boarding-houses $15 to $20 per month.

There are fine rock roads for miles around, and the livery stables are good. Lakes and small creeks furnish boating, fishing, and swimming, and the hunting is good. Drills of the East Florida Seminary Cadets and theatres offer amusement, while the libraries of the Seminary and the Florida Society for Scientific Research give an opportunity for reading.

There is good bathing at the *Worthington Mineral Springs*, twenty miles north of Gainesville.

Ocala has been called "one of the best planned and most picturesque cities of the South," possessing paved streets, street railways, an electric light plant, a wholesome and desirable water-supply, and a remarkable system of natural sewerage formed by a swiftly flowing underground river eighty to one hundred feet beneath the surface.

The mean winter temperature is 60.69° F.; the number of clear, fair days being very great. It is unusually free from sickness; no yellow fever or any other plague has ever visited it. Pulmonary diseases, sunstrokes, and rabies are unknown.

The indications for a sojourn at Ocala are pulmonary and throat troubles, chronic rheumatism, gout, senile debility, and an enfeebled nervous system. The air is warm and dry, and impregnated with resinous odors from the piney woods. City and country life are combined; there are ten churches, an opera-house, an international and semi-tropical exhibition from January to April; rifle, tennis, and German clubs; while orange groves, etc., are easily reached, and a day's outing with bathing, boating, and fishing is easily obtained. *Silver Springs*, five miles east of Ocala, is reached by a drive through semi-tropical scenery. The Silver Spring Run flows to the Ochlawaha River, a tributary of the St. John's; both streams are navigable for steamers, and the trip is described by Mrs. H. B. Stowe as a visit to "fairy-land."

The Blue Springs are reached by less than an hour's ride from Ocala; they are called "weirdly beautiful," and may serve for a day's excursion, or may be enjoyed for a longer time by a sojourn at the hotel, which will be finished in about two months. The mean winter temperature is 45° F.; lowest, 30° F.; and the air is described as delightful in quality. The boating, fishing, and hunting are good.

Homosassa-on-the-Gulf, forty-five miles from Ocala, boasts of exquisite scenery, a delightful climate, comfortable accommodations, and good sporting opportunities.

Dunnellon, twenty-five miles from Ocala, is said to afford fine "bits" for the amateur photographer, while *Lake Weir*, eighteen miles south of Ocala, a famous health-resort before the war, is fast regaining its popularity.

Tampa, at the head of Tampa Bay, has been tersely described as "an excellent winter resting-place. Scenery beautiful, fishing excellent, game abundant, vegetation tropical. Hotels good." The air is soft, balmy, and pleasant; mean winter temperature has been 66.35° F. for twenty-five years, 98° F. the maximum, 26° F. the minimum, and is not liable to sudden variations. The relative humidity is from 60 to 70, and the rainy season occurs in the summer. The soil is sandy, with a hard pan of rock at different depths, and clay in places. There is as yet no general sewerage system except at the hotels. The bucket system is in use, and the contents are burned in a crematory. A spring supplies the water-works, but rain-water is mostly used for drinking. Sulphur springs are in the vicinity.

The place is recommended to all sufferers from chronic diseases who would derive benefit from a mild winter climate permitting an out-of-door life. Hillsborough River and Tampa Bay afford all water sports desired; while many diversions are provided for invalids at the Tampa Bay Hotel and elsewhere. The railway, postal, and telegraphic facilities are good; the mail arrives from New York in forty-one hours. Nine miles from Tampa is Port Tampa, built upon piles, a mile from land. It is a shipping point for the Plant Investment Company, whose steamers leave it weekly for Havana, Cuba, *via* Key West.

There are good hotels at Tampa, the prices ranging from $12 to $16.

Manatee, situated on the Manatee River, south of Tampa Bay, is a village where boarding accommodations may be procured.

Tarpon Springs, which may be reached from either Tampa or Cedar Keys, is surrounded by a high, rolling country, and has in its immediate vicinity a lake, a river, and a bayou. The air is pure, comparatively dry, and free from mists and fog, the climate mild and equable, with almost perpetual sunshine, tempered by frequent light showers. The average mean temperature for the winter months during the years from 1884 to 1890 inclusive was 63.5° F. The soil is sandy; sewerage at present conducted by removal of waste to a distance and conversion into fertilizers. The drinking-water is obtained from wells twelve to twenty-five feet deep. It is pure, clear, and free from lime. The hotel is supplied from an artesian well. The water from the mineral springs is at present under analysis; it is slightly sulphurous.

Bronchial and lung affections constitute the indications for a winter residence at Tarpon Springs.

The town is on the railroad, receives a daily mail from the North and the South, and has a telegraph office. There is a good hotel with two cottages. Board ranges from $15 to $25 per week. From $10 to $12 at private boarding-houses. The driving is good, and the riding in the pine-woods is especially delightful, from the fact that there is no undergrowth. Walking is facilitated by several miles of broad walk, one being by the side of the bayou, with seats at short intervals.

The fishing is uncommonly good, tarpon and other fish abounding; steam and naphtha launches make daily excursions to the islands in the Gulf, the sponging fleet, etc. There is also good bathing and some hunting. A library and reading-room are free to all.

Cedar Keys possesses a mild climate, is well situated, and affords excellent facilities for out-of-door exercise and sports. It is accessible, and would be a good resort for phthisical patients and rheumatics, were it not that there are few comfortable accommodations for invalids.

Tallahassee, the capital of the State, is twenty miles inland from the Gulf of Mexico, and is situated upon high ground in the midst of varied and beautiful scenery. The atmosphere is bright and sunny. For four winters the mean winter temperature has been 56.1° F. The air is inclined to be moist, but the rainy season occurs in summer. A mixture of clay and sand forms the soil. The drinking-water is obtained from cisterns, but an artesian well will shortly be completed. The hotel sewage is carried to a stream outside of the city. Patients who need fresh air and out-of-door exercise are benefited by a stay in this city; some cases of pulmonary troubles do not improve, others derive much help from the climate. Railroad, postal, and telegraphic advantages are good. The hotels are considered excellent, and there are comfortable boarding-houses. Hotel rates are from $2 to $4 per day. Private boarding from $20 to $50 a month. Good roads and very fine livery accommodations permit of enjoyable rides and drives, and the walks are beautiful. The fishing in the adjacent lakes is not very good until the spring, but the place is a favorite one for the huntsman, the shooting for quail and duck being especially fine. One sportsman succeeded in bagging fifty-nine quail in one day last winter. Deer and turkey are

found in the neighborhood. There is an excellent public library, and the social advantages are good.

Wakulla Springs, eighteen miles south of Tallahassee, is the fountain-head of a river of the same name, which flows south and joins the St. Mark's. The waters of the springs are so transparent that where over a hundred feet in depth a ten-cent piece may be seen at the bottom.

Madison, fifty-five miles east of Tallahassee, is situated near a group of beautiful lakes, in whose waters the fishing is excellent.

Monticello is about thirty-three miles east of the capital, and is pleasantly situated. In both of these towns good board can be obtained.

Quincy is a small village, twenty-four miles west of Tallahassee, and is charmingly situated in the midst of the hills.

Appalachicola, on the Gulf coast, is a town of about three thousand inhabitants. The climate is mild, the mean winter temperature being about 61° F., but is liable to sudden variations. The air is pure, moist, and soft in quality. The soil is sandy, the drinking-water obtained from wells and cisterns. The climate is considered beneficial for asthma and for some cases of bronchial and pulmonary disease. There are a few hotels, and the prices are from $1 to $2 a day.

Pensacola, the largest place in Western Florida, is a city of twelve thousand inhabitants, and is situated upon a bay of the same name, only five miles from the waters of the Gulf of Mexico. The climate is mild, pleasant, invigorating, and equable, with a mean winter temperature of 53.5° F., the lowest in ten years being 16° F. It contains ozone, and is somewhat moist in quality.

The greatest rainfall occurs in August, and the least in February. There are high winds at rare intervals; the city is shaded by trees. The soil is sandy, with a subsoil of clay.

The Waring system is used for the disposal of sewage, which is emptied into Pensacola Bay. The drinking-water is obtained from wells averaging in depth one hundred and seventy feet—pure and free from organic matter.

Catarrhal affections constitute the indication, advanced phthisis the contra-indication, for a stay at this place. Railroad, postal, and telegraphic advantages desirable.

Four hotels, of good size, charge from $50 to $75 per month, boarding-houses $20 to $35. The country is rolling, the roads dry and sandy. There are livery accommodations, pleasant drives, fishing, hunting, boating, and swimming.

The snapper banks are almost in sight, and snappers, trout, pompano, and other fish, including the tarpon, are obtainable. Bear, quail, turkeys, and other wild game are within easy reach.

There is a library and a gymnasium.

De Funiak Springs, in Western Florida, is a winter resort of considerable popularity. The mean winter temperature is about 53° F.; lowest, 30° F. The air is usually dry, soft, and non-irritating to inflamed bronchi. The soil is sandy; the water supplied from springs and wells. Diseases of the lungs, heart, and kidneys are benefited by a stay at this place. In the centre of the town a circular lake one and one-fourth mile in circumference, which has no visible source of supply or outlet, affords opportunities for boating.

The "Florida Chautauqua" meets in this place in February and March of each year. Railroad and other facilities good. One large and several smaller hotels and boarding-houses. Board from $5 a week to $3 a day. One writer says of the town: "There is no liquor and no need of police."

ALABAMA.

Mobile, the largest city of Alabama, and its only seaport, is situated at the mouth of Mobile River, on Mobile Bay, upon a gradually rising plateau, with an average winter temperature of 56° F.; it possesses a mild, equable, but moist climate. The healthfulness of the city is greatly due to the "rolling surface, freedom from marshy and flat surroundings, pure food, air, and water, and equable climate, with the effects upon all these of the vast piney woods and Gulf breezes and sea-air." The sewerage system used is that of surface sewerage, but an underground system is promised in the near future. In point of accessibility and the other comforts of civilized life, Mobile compares advantageously with other cities of its size. The city itself is well built, and possesses many beautiful features in the shape of fine buildings, and broad, shaded streets. The riding, driving, rowing, sailing, hunting, and fishing are all good, and two theatres, concert-houses, street parades, and military encampments afford amusement to the visitor. Board at the hotels is $2 to $3 per day, $12 to $15 per week.

Blount Springs, in the northern part of the State, which is situated at an altitude of five hundred and fifty feet, in a valley surrounded by high mountains, is chiefly a summer resort, but boarding-houses are open all winter, where the prices are about thirty dollars a month. The lowest temperature in winter is 15° F. The air is dry, pure, and rich in ozone. In the winter there are occasional falls of snow, which melt in a few hours. There are no high winds. The soil is porous; the drinking-water is pure and comes from springs. The waters of the springs are saline sulphur. Their analysis will be given upon application to the MEDICAL RECORD. They are considered beneficial in rheumatism, cutaneous diseases, old ulcers, and anæmia. A stay here is contra-indicated in advanced phthisis. The scenery is fine; driving, fishing, tenpins, and other games are the diversions afforded. Blount Springs is on the railroad, and has good postal and telegraph service.

Bailey Springs, situated in a fertile, rolling country, possesses many attractions for the invalid, besides the efficacy of its waters. The latter are alkaline-chalybeate in quality, and have proved of value in scrofula and in dropsy, especially when associated with kidney disease or with enlargement of the liver or spleen. They are also beneficial in leucorrhœa, amenorrhœa, dysmenorrhœa, and irritability of the bladder. Their analysis will be furnished upon application to the MEDICAL RECORD. The temperature in winter does not go below 25° F., nor above 60° F.; the air is dry and bracing. The soil is a somewhat impervious one of gravel and clay. The drinking-water is obtained from springs. The railroad is four miles away. There is a daily mail, and telephone connection to a telegraph office. Board at the hotel is from $7 to $8 a week. It is situated on the summit of a horse-shoe-shaped range of hills commanding a beautiful view. Walks and drives, boating, fishing, and hunting, with many diversions furnished by the hotel, serve to pass the time.

ARKANSAS.

Hot Springs.—This famous resort is situated in a valley on the western slope of the Hot Springs Mountains, at an altitude of one thousand three hundred and sixty feet above the sea level. The climate is pleasantly mild, even in the winter. The waters of the springs (which are fifty-seven in number) contain in one pint,

	Grain.
Carbonate of magnesia	0.016
Carbonate of lime	0.496
Carbonate of sodium	0.001
Sulphate of potassa	0.029
Sulphate of soda	0.047
Sulphate of lime	0.014
Sesquioxide of iron	0.013
Iodine	trace
Bromine	trace
Silicate of lime	0.058
Silica	0.233
Alumina	0.056
Organic matter	0.088
Water	0.018
Total	1.069

Their temperature is from 93° F. to 150° F. De Soto's companions passed these waters in search of El Dorado, and thought them "the fountain of youth." They have a well-deserved reputation in the treatment of "chronic rheumatism, gout, contractions of joints, secondary and tertiary syphilis, and neuralgia. In paralysis, unaccompanied by organic lesions, they are of considerable utility. As auxiliaries in dartrous diseases of the skin, functional diseases of the uterus, and chronic poisoning by metals—either lead or mercury—they are efficient. Experience proves them to be *positively* injurious in affections of the heart or brain, dropsies, and diseases of the lungs in any form; and persons laboring under diseases for which these waters are beneficial, but accompanied by such maladies, need not journey to Hot Springs" (Walton).

Vapor baths, douches, etc., are to be obtained in the many bathing-houses which have been erected. A "moss" which grows in these thermal waters is used and acts like a poultice to painful parts or to ulcerating surfaces. In the many hotels and boarding-houses prices vary from $3 to $25 per week.

The Eureka Springs, in the northern part of the State, are situated in a hilly country at an elevation of two thousand feet. The winters are mild, the soil dry and porous, the waters, which are not strongly mineral, are said to be beneficial in chronic dyspepsia and diseases of the glands and joints. There are several good hotels, where prices range from $1 to $3 a day.

TEXAS.

San Antonio, a quaint old city, is situated at an altitude of six hundred and eighty-five feet, and has a pleasant climate in the winter and early spring, although the temperature is liable to sudden variations. The air is dry, soft, and balmy, and considered beneficial in pulmonary complaints. The soil is a black loam; there is no system of sewerage; the drinking-water is obtained from springs within the city limits, and from artesian wells.

The railroad stations are in the town, and there are good postal and telegraph facilities. At the largest hotel board is $4 a day; at the smaller ones from $2.50 to $3.50; in pleasant boarding-houses from $5 to $10 per week.

The city itself possesses many interesting features; it was founded in 1714 by the Spaniards. The drives in the vicinity are charming, and are facilitated by good livery accommodations. There is little boating, but excellent fishing, and swimming may be had in the river or the natatorium. The hunting is so good that the place has been called "the sportsman's paradise."

Austin, lying in what is called the "Health Belt," among the foothills of the Colorado Mountains, is built on an amphitheatre of hills, commanding a view of the valley of the Colorado and the prairies beyond. The climate is mild, and is recommended in chronic diseases of the throat and lungs. The city is accessible, the hotels excellent.

NEW MEXICO.

The Las Vegas Hot Springs, at an altitude of six thousand four hundred and fifty feet, are situated on a southern slope of the Rocky Mountains a few miles above the city of Las Vegas.

The climate is equable; mean winter temperature, 33° F.; the air pure, dry, and free from dust, and exhilarating; there is almost perpetual sunshine, so that invalids can easily lead an out-of-door life. The soil is rocky and sandy; the sewage from the hotels is carried to meadow-lands three miles away, there berng not more than a dozen occupied houses tn the place, a more complicated system of sewerage is unnecessary. The drinking-water used is from the springs, cooled, and from the mountain-streams. The analysis of the thermal waters is as follows:

	Grains.
Calcium carbonate	0.89
Magnesium carbonate	0.15
Sodium carbonate	8.38
Potassium carbonate	0.28
Sodium sulphate	3.35
Sodium chloride	14.68
Alumina	0.10
Silica	3.50
Volatile and organic matter	0.32
Lithium carbonate	traces
Sodium bromide	traces
Total, to gallon of 231 cubic inches	31.65

They are recommended in rheumatic, specific, and skin diseases, and in early stages of pulmonary affections are considered of benefit in combination with the climatic advantages. The altitude of Las Vegas contra-indicates a stay here for persons of an extremely nervous temperament, or for those with advanced cardiac disease, but is beneficial in asthma and incipient nephritis.

The railroad station is at the hotel; the mail comes twice daily, and there are telegraph lines. The hotel is highly spoken of for its accommodations, the food, and modern improvements. Prices range from $3 to $4 a day; lowest, $21 a week.

In the bath-house are given shampoo, electric, medicated, vapor, pack, tub, and mud baths.

There are fair provisions for driving, and excellent ones for riding; the surrounding country is very beautiful and possesses many interesting historical associations. Fishing and hunting yield rich rewards to the accomplished sportsman.

Santa Fé is situated at an altitude of seven thousand and thirty-five feet, in a cup-like hollow of a table-land, and is encompassed on all sides, except the south and southwest, by a magnificent range of mountains, which effectually protects it from wind and dust storms. The mean temperature in November is about 36.7° F.; December, 40.2° F.; January, 28.3° F.; February, 31.7° F.; March, 39.1° F., and is not liable to sudden variations. The sun shines almost continuously, the air is dry and bracing. The soil is a mixture of carbonate of lime and marl, exceedingly porous, with a substratum of gravel. The drinking-water is obtained from a reservoir three miles from the town, fed by rains and melting snows, and is remarkably pure and cold. It is claimed that asthma, hay fever, and malaria are unknown at Santa Fé, and that the climate is excellent for pulmonary complaints, while contra-indicated in organic heart disease and chronic bronchitis.

The city is accessible, and possesses excellent postal and telegraphic facilities. Good hotel accommodations can be obtained for $3 a day; at the St. Vincent Sanitarium from $40 to $75 a month. The scenery is magnificent, and the riding and driving good. Excursions may be made to Monument Rock, the ancient pueblos of Tesuque and Nambe, the cliff dwellers near Española, and other points of interest. The fishing and shooting are of an excellent description.

Albuquerque, a few miles south of Las Vegas, at an altitude of five thousand feet, possesses a mean winter temperature of about 58° F., which is liable to sudden variations, and may at times go as low as 10° F. below freezing. The air is pure and dry. The prevailing winds are south and southeast, but at times are directly east. The soil is a sandy loam; the Waring system of sewerage has just been introduced. The drinking-water is alkaline in character. The climate is suitable for some forms of catarrh, dyspepsia, and at certain seasons of the year for incipient phthisis. It is contra-indicated in advanced phthisis, bronchial catarrh, and hepatic ailments.

The railroad and postal facilities are good; the hotels excellent. Prices for board are from $8 a week upward. There is good hunting, wild game being in abundance.

CALIFORNIA.

San Diego, the most southern of the Californian health resorts, possesses a climate which is dry, equable, and invigorating. The mean annual temperature is about 62° F., and it very seldom sinks to the freezing-point. There are few fogs, and the average rainfall is but ten inches per annum.

"Throat, chest, abdominal, renal, rheumatic, and gouty affections, especially if of a chronic order, are benefited by the climate," and it is moreover considered especially valuable in cases of weak heart, disabled lungs, and worn-out nerves. In the Board of Health Reports for the last ten years it was shown that not one case of consumption originated in the city, nor was there a single case lost from chest complications in the recent epidemic of influenza, out of a population of thirty-three thousand, and fifteen thousand additional people in the bay region. Hay fever and malarial troubles are practically unknown, and the diseases of infancy are rare. San Diego is said to be the haven of safety for the vulnerable periods of infancy and old age.

The city has all usual conveniences and many good hotels.

Coronado Beach.—Across the harbor is a resort known as Coronado Beach, a town of fifteen hundred inhabitants. The climate is of course the same as that of San Diego. It is laid out in regular streets and avenues, possesses good sewerage and water systems, a mineral spring (whose analysis will be given on application to the MEDICAL RECORD), a Sanatorium at which is found every appliance for hot and cold salt- and fresh-water baths, trained nurses, massage operators, and electricity. Neurasthenia and hysteria, in addition to the diseases mentioned under the description of San Diego, are benefited by a stay in this place.

There is one hotel large enough for seven hundred people, at which prices range from $3 to $5 per day, $17 to $35 a week, a smaller hotel, and some good boarding-houses.

The beach is several miles long, the drives pleasant, while the ocean and bay afford water sports. A small theatre is attached to the hotel, and the proximity to San Diego renders possible attendance at theatre and opera.

There are several mineral springs in the vicinity of San Diego, among which may be mentioned the hot sulphur springs of *Aqua Caliente*, sixty miles to the north-east; Buckman's Soda Spring, at about the same distance; Santa Rosa and Elsinore, both yielding hot sulphur waters; Temecula and Carlsbad (the latter resembling the European waters); San Jacinto and Agna Tibia, and finally, Tia Juana and Jacumba, the waters of which possess peculiarly tonic properties.

Los Angeles, the "town of the angels," possesses great beauty of scenery and surroundings, and a climate of peculiar excellence. Out of three hundred and sixty-five days there are nearly three hundred of sunshine; the air is clear, pure, dry; sixty-eight per cent. humidity from December to March, and mild. The mean winter temperature, according to the official reports, is 54° F.; from September to March, for the past ten years, it was 61.14° F.; lowest, 28° F. It is not liable to sudden variations, but the nights are very much cooler than the days. The rainy season is from December to March, when showers occur frequently, but are not constant. There are sea-breezes, but the city is sheltered by mountains from the north and the east. The soil is richly alluvial, with streaks of adobe and sand, and the land is largely irrigated. The town is rapidly being sewered, and an outflow to the ocean is contemplated. At present there are cesspools only. The drinking-water is obtained from the Los Angeles River, soon after its descent from the mountains; it is pure but hard, containing lime. An extensive water plant will soon furnish water to the limits of the corporation. Ocean, Turkish, Russian, hot mud baths, douches, massage, and electricity are all to be obtained.

The climate is considered to be well adapted to nervous disorders, rheumatism, pulmonary and heart troubles, general debility, and old age. Bilious people do not do well. It is claimed that pneumonia, bronchitis, and pleurisy are rarely encountered, that the ordinary disturbances of infancy and childhood are but little seen, and that the recent epidemics of influenza were very mild as compared with the East, and followed by few complications.

Los Angeles is reached by rail and steamer, and possesses good postal and telegraphic facilities. The hotels are said to be exceptionally good (prices $2 to $4 per day), and there are many private boarding-houses.

There is so little frost that flowers bloom all the year round, and the invalid can spend the greater part of the time out of doors. Orange-groves, vineyards, and orchards form a pleasant feature of the surroundings; the drives are pleasant and the livery hire quite reasonable. "Dummy-lines" run to points of interest. There is quail shooting from eight to ten miles from the city, boating at the beach, eighteen miles away, and on a small lake near by, bathing and swimming at the beach and in private bathing establishments, and fishing in the cañons. There is a good free library in the town.

Santa Monica, about sixteen miles from Los Angeles, is a delightful sea-side resort, with a climate so mild that sea-bathing may be indulged in all winter. The beach is fine, and the hotel good.

Sierra Madre Villa, a delightful abiding place for the winter months, possesses a climate similar to that of Los Angeles, somewhat modified by its altitude of one thousand six hundred feet. It is situated on the foot-hills of the Sierra Madre Mountains, affording extensive and beautiful views. The hotel has recently changed proprietors, and will open November 1st. The railroad station, post and telegraph offices are one mile away.

Redondo Beach, eighteen miles southwest from Los Angeles, possesses a fine bathing beach, at which bathing may be enjoyed at all seasons. The sea-air is bracing, the soil dry and porous, the water-supply abundant, and of excellent quality. A large hotel (the Redondo), with two hundred and twenty-five rooms, and all conveniences and diversions, a smaller hotel, and restaurants and lodging-houses.

Pasadena is eight miles from Los Angeles; its temperature, moisture, and the general qualities of the air will therefore vary from those of the former place only so far as influenced by its greater altitude of five hundred feet. Pasadena is sheltered from the winds upon the north and west.

The soil is a gravelly loam, a very deep detritus from the mountains and vegetable mould. There is little dust in winter and the land is irrigated.

The present system of sewerage consists of cesspools, covered, but seldom ventilated. A thorough system is, however, nearly complete, the pipes being laid to a farm three miles away. The drinking-water, pure and slightly hard, comes from the mountains in iron pipes.

There are several sanatoria, with massage operators, electricians, etc.

A stay at Pasadena is indicated in the early stages of pulmonary troubles and in diseases of the kidney and in nervous disorders. It is contra-indicated in advanced phthisis. The railroad, postal, telegraphic, and telephonic facilities are good. There are three first-class hotels, in which prices are from $2.50 to $4 per day. At other hotels and boarding houses board is from $5 to $15 a week.

"The scenery is semi-tropical. While the surrounding mountains are covered with snow our snow-flakes are orange petals, and flowers, shrubs, and trees in their beautiful colors all winter." The drives are pleasant; four livery stables furnishing horses and carriages. With churches, Young Men's Christian Association, clubs, Opera House, library, mountain climbing, Athletic Club, billiards, fishing, hunting (quail and rabbits), the diversions afforded to the invalid are many.

San Bernardino. Beautifully situated in a fruitful valley, surrounded by orchards, orange and lemon groves, with a distant view of snow-capped mountains, this little city is much sought by those who prefer a drier atmosphere than can be found upon the coast. At an altitude of fifteen hundred feet the air is pure and invigorating. The mean winter temperature is 67° F.; lowest, 33° F. The rainy season occurs in January, February, and March. The soil is composed of a black alluvial loam, and gravelly granite with clay loam. The city is thoroughly sewered, waste flowing into the creek below the city; the drinking-water is obtained from artesian wells and conveyed in steel pipes.

Six miles distant are the thermal mineral springs of *Arrowhead*, whose waters contain soda, lime, iron, and alumina, and four miles away the *Rabel* Hot Springs. There are appliances for baths at both places. Tuberculosis, bronchitis, asthma, rheumatism, and sciatica are the diseases for which sufferers seek refuge in San Bernardino. There are all railroad and other accommodations, good hotels, where prices range from $1.50 to $3 a day, and private boarding-houses where the charges are $5 weekly.

San Buonaventura, an old ex-Spanish town, at a few hours' distance from Los Angeles, is situated upon the seashore at the mouth of the Ventura River. The climate is mild and delightful, the city well built, with a good system of sewerage and efficient water-works. The hotels are good.

Santa Barbara, one of the oldest and most frequented of the Californian resorts, was founded in the last century by the Franciscans of the Spanish Mission. It is charmingly situated on the coast in a sheltered nook, the mountains to the north, the crescent-shaped beach, the ocean, and the adjacent islands forming a rarely beautiful outlook.

The air is pure, bracing, dry, highly electrical, with a mean winter temperature of 54.29° F., 33° F. being the lowest. The soil is a species of disintegrated granite; in places there are sandy loam and adobe. The sewage is conveyed to the ocean; the water-supply is from Mission Cañon—clear, sparkling, and of good quality. There are hot mineral springs six miles from the town, which contain sulphur and are beneficial in chronic rheumatism, cutaneous affections, etc. Their analysis will be given upon application to the MEDICAL RECORD.

Dr. Logan, Secretary of the State Board of Health of California, spoke in most enthusiastic terms of the climate of Santa Barbara, mentioning in especial its equability, a peculiar ambrosial quality of the air, and the "happy combination of temperature and moisture which, while it refreshes, also invigorates and vitalizes equally the whole system."

A residence in this spot is indicated in diseases of the respiratory organs, phthisis, rheumatism, gout, neuralgic affections of the kidneys and liver; for victims of overwork, malaria, nervous disorders, and anæmia. The railroad, postal, and telegraphic facilities are all good; the hotel accommodations of the best. Rates at the largest hotel, $3 a day and upward; much less at boarding-houses. There is much to interest the invalid and prevent morbid brooding over his ailments. The town itself possesses many objects of interest, as the Spanish and Chinese quarters, the Franciscan Mission, the street walks shaded by rows of pepper and eucalyptus trees, and the gardens filled with tropical plants at all seasons of the year. The lover of out-door life may ride to his heart's content, as good and gentle saddle-horses are to be obtained; driving is excellent, and fishing, bathing, swimming, and boating are all practicable; while game, from a quail to a California lion or a grizzly bear, rewarding the skilful huntsman. Theatres, lectures, clubs, a good public library, and art studios, are all available.

The Paso Robles Hot Springs yield a sulphur water which Walton calls "among the best sulphur waters in the world." It contains considerable chloride of sodium, sulphuretted hydrogen, carbonic acid gas, and alkaline carbonates, and is considered to be closely allied to the waters of Aix-la-Chapelle. It is beneficial in gout, chronic rheumatism, contractions of the joints, old gunshot wounds, and chronic skin diseases.

The views which may be obtained within a few miles of the springs are said to be enchanting. At the springs themselves there are good accommodations for visitors.

Monterey, an interesting old Spanish town, is charmingly situated at the southeasterly extremity of Monterey Bay. Formerly a commercial centre, it yielded the palm in that respect to San Francisco; but of late years has, with the adjoining village of *Seaside*, assumed importance as a health resort. The climate is cooler than in other Californian resorts farther south, the mean winter temperature being about 50° F., but it possesses a remarkable equability. The proportion of sunny days is large, and the place is well sheltered from the wind. The soil is a sandy loam, the water is obtained from wells and is soft and pure. The resort is a delightful one for those suffering from "bronchial difficulties, incipient consumption, hereditary or acquired, or from the nervous exhaustion of mental overwork, and various other causes, and who therefore dread a long, cold, and changeable winter. The city is on the railroad, and of course possesses all postal and telegraphic facilities.

Riding and driving are good, as are the water sports. The fishing in the bay is said to be especially fine, and the hunting is good. There are many places of interest in the vicinity; of these we may mention the San Carlos (or Carmel) Mission, a fine ruin of a building founded in 1770; Cypress Point Grove, "a mystic collection of trees;" a seventeen-mile drive of great beauty, and Pacific Grove Retreat, a religious sea-side resort resembling Ocean Grove, Martha's Vineyard, and Nantucket, of the Eastern States.

The Hotel del Monte offers every comfort, and has fine grounds, lawns, flower-beds, and bathing-houses. Prices range from $3 a day and upward. There is a Sanatorium at Seaside, where baths, douches, electricity, etc., may be obtained.

Santa Cruz, at the northern extremity of the same bay, is one of the most popular of Californian watering places. The climate is genial like that of Monterey, and the place is protected from winds by the well-wooded Santa Cruz mountains. The soil varies from a sandy loam to adobe, chalk, and other formations. All sewage is carried to the open sea. The drinking-water is brought from mountain springs, and is of excellent quality. There are ample bathing facilities and curative appliances, such as special douches, massage, and electricity. Neurasthenics and all seeking refuge from the confusion and hurry of large cities will find Santa Cruz a charming place in which to rest.

In point of accessibility and means of communication with the rest of the world there is no cause of complaint. The hotels are good, and there are many boarding-houses. Prices range from $16 a month to $4 a day.

The picturesque scenery, the drives, walks, out-door life and games, water sports, and hunting, besides the use of a library and many other diversions, all combine to make Santa Cruz an attractive place of resort.

San José, in the fertile Santa Clara Valley, possesses a cool, moist, balmy, and invigorating climate. The mean winter temperature is 48.9° F.; the lowest, 28° F., the per cent. of humidity 84.8. The nights are cold, and patients need to protect themselves with warm flannel underclothing. The town is sheltered from the winds by mountains; the soil ranges from a heavy adobe to light gravelly loam; sewage is carried in pipes beyond the city limits; thence an open sewer conducts it to a slough which empties into the southern arm of San Francisco Bay. The drinking-water comes from streams in the Santa Cruz mountains, and is of good quality. Seven miles from the city are a soda and a sulphur spring, whose waters have not been analyzed. Sufferers from nervous

diseases, especially when there are cardiac, hepatic, or gastric complications, do well in San José.

The railroad, postal, and telegraphic services are good, as are the hotel accommodations. Board varies from $4 to $10 per week. Good board cannot be afforded for less than $25 a month.

With good roads, and good livery-stables, drives and rides cannot but be pleasant through the broad valley, surrounded by mountains and covered with vineyards, wheat-fields, orchards, beautiful trees, and ornamental grounds, while with public schools, colleges, and a university, a library, opera-house, music-hall, literary and musical societies, wheel and tennis clubs, it would seem that the visitor need suffer no lack of recreation.

Santa Clara, an interesting village, the site of a Jesuit college, is but a few miles from San José, and easily reached by a horse-car line.

Stockton, on a level, rich agricultural plain, in the San Joaquin Valley, is a city of from fifteen thousand to twenty thousand inhabitants. The mean winter temperature is about 40° F.; lowest, 28° F., and is not liable to sudden variations. The air is dry, and for that reason some persons prefer it to that of the seaport town.

The soil is a rich black loam; a system of closed sewerage is at present being constructed. The water is obtained from artesian wells, and is of good quality. The town is attractive, and possesses railroad and other accommodations, several hotels, many churches and schools. A theatre is in process of construction. There are opportunities for driving and riding, boating, fishing, swimming, and hunting.

Visalia, farther south, is so surrounded by a forest of oaks as to be well protected from the winds. The climate is somewhat warmer than that of Stockton, and is recommended for persons inclined to throat troubles.

San Rafael, about fifteen miles from San Francisco, is near the west shore of San Pablo Bay, and well protected from winds by the mountains which nearly surround it. The air is dry, bracing, clear from fog, with a mean winter temperature between 55° F. and 60° F.; lowest, 31° F. In the winter there is a considerable amount of rainfall, but the ground dries readily, and sunny days are frequent. The soil in the valleys is a rich alluvial one. The sewage is disposed of by the "gravity" system, emptying into a slough one mile from the town, but before long there will probably be an improved sewerage system. The drinking-water comes from a lake two thousand seven hundred feet high, and is excellent in quality. Bronchial and pulmonic affections, debility, insomnia from any cause, and asthma, are benefited by the climate of San Rafael.

Railroad, postal, and telegraphic service, good. Town lighted by gas and electricity. One large hotel and several boarding-houses; board from $5 a week to $4 a day. Driving, riding, water sports, and hunting are the diversions afforded, in addition to a town library.

Napa City, about fifty miles north of San Francisco, possesses a healthful climate which is considered beneficial to neurasthenics.

The **Napa Soda Springs**, five miles distant, at an elevation of one thousand feet above sea level yield an alkaline-chalybeate water.

Calistoga, situated in a picturesque region, is a pretty little town, in the vicinity of which are the Hot Springs containing sulphur, and beneficial therefore in gout, rheumatism, paralysis, chronic cutaneous diseases, and lead poisoning. There is a good swimming bath, private baths, hot sulphur steam bath, and mud baths. The "grape cure" may be taken at this place. Five miles distant is the celebrated Petrified Forest, where are found the remains of gigantic trees converted into solid stone.

COLORADO.

Denver, the "Queen City of the Plains," lying at an altitude of five thousand two hundred feet, is situated upon a series of plateaus and commands a view of a magnificent range of mountains, some of whose peaks rise fourteen thousand feet into the sky. The mean temperature for the winter months is as follows: November, 41.8° F.; December, 23° F.; January, 29.4° F.; February, 35.5° F.; March, 32.7° F. The air is clear, cold, dry, invigorating, and its quality has been described as possessing the exhilarating influence of champagne. The climate is considered beneficial in asthma (giving almost immediate relief), rheumatism, gout, hay fever, and phthisis in its early stages.

The author of "Rocky Mountain Health-Resorts" believes that the "favorable or positive influence of high altitudes upon the progress of consumption is best shown in the commencement of chronic, inflammatory, and hemorrhagic cases, and generally in fibrous phthisis in young and middle-aged subjects, with little constitutional disturbance. The unfavorable or negative influence of high altitudes upon the progress of consumption is mainly seen in proportion as the disease approaches or is complicated with the following conditions, which are intensified by an irritable, nervous state, and lack of desirable will-power, aided by the stimulus and hope of youth; *i.e.*, 1st, cardiac disease if associated with increased labor and abnormal activity of the heart; 2d, the stage of softening in acute cases and with extensive deposit; 3d, chronic third-stage cases with from one-third to one-half the lung surface involved in diseased changes, if the thermometrical and other usual signs of constitutional disturbance are present in a marked degree." For the cure of consumption a prolonged stay is usually necessary, many who are partially cured existing with comfort in the climate which has benefited them, but experiencing a relapse if they leave it for any length of time. On account of the rarefaction of the air many persons require a certain time for acclimatization. Besides the cases mentioned above, some cases of nervous derangements, as neuralgias, form contra-indications to a stay in Denver, though they may result from a too sudden change to the high altitude and subside with time. On account of the wind- and dust-storms, some cases of catarrhal and throat trouble cannot live in Denver.

The growth of the city has been almost phenomenal. In 1865, after an existence of six years, its population was seven thousand; in 1890 it was one hundred and six thousand six hundred and seventy. It is now a beautiful city, with broad, well-planned streets, a system of irrigation of which it is justly proud, five public buildings, and handsome private houses. It is lighted by gas and electricity; the water is obtained from mountain sources by means of Holly works, and there are over three hundred artesian wells with a depth of from three hundred and fifty to sixteen hundred feet.

There are seventeen railroads connected with the city, street railways, cable cars, motor lines, etc. The hotels, of which there are thirty, offer varying accommodations, several of them are large and provided with all modern improvements. Board in private families may also be obtained.

The smelting works, at a little distance from the city, possess great interest, and the roads being excellent, driving and riding afford recreation. There is a large Opera House, which is considered an exceedingly handsome building.

Colorado Springs is situated upon the plains at an altitude of six thousand and eighty feet, and commands upon one side a view of beautiful mountains, glens, and valleys, with pine-woods, while to the east and south stretch the great plains. The air is pure, rich in ozone, dry, cool, and possesses great diathermancy. The mean winter temperature is 27.1° F., day and night; in the shade, 35.8° F.; in the sun, 104.3° F. The minimum is 14.7° F. The temperature is liable to sudden variations. The relative humidity in winter is 58.8, the absolute, 1.82. High winds are apt to arise, but the town is partially sheltered. There is a top soil of about two feet, beneath which are

seventy feet of sand and gravel to a clay bed, sloping to the water-courses. There is dust when the winds blow.

The town is piped, and the sewage is conveyed to a farm two miles below the town; the plumbing is well ventilated, and the pipes plentifully flushed with water. The source of the drinking-water is a government reservation on Pike's Peak, a protected watershed from which it is brought in iron pipes to the town.

A residence in Colorado Springs is indicated in tuberculosis, neurasthenia, asthma, malarial poisoning, and anæmia; contra-indicated in cases of dilated heart, irritable nervous conditions, irritable catarrhal mucous membranes, and old age.

The town possesses several railroad stations, all postal and telegraphic facilities. There are twelve thousand residents, and about three thousand visitors in addition. Several hotels and boarding-houses give good accommodations, the former at $2 to $5 a day, the latter from $5 to $25 a week. At the Bellevue Sanitarium for the treatment of diseases of the lungs, board may be obtained from $8 to $12 a week.

There are nine livery stables where horses and carriages may be obtained at moderate prices, the roads are good, the drives pleasant. The diversions afforded to invalids are concerts, theatricals, three bands of music, polo, tennis, races, rowing, skating, and all sports, the use of several libraries. There are churches, schools, club-house, and country club.

Idaho Springs.—Thirty-eight miles from Denver, up Clear Creek Cañon, the scenery of which is of the grandest description, is the small city of *Idaho Springs*, which at an altitude of 7,500 feet possesses the advantage of being well sheltered from the winds without being deprived of sunshine by overhanging peaks. With a mean winter temperature of about 33° F. (liable to sudden variations), a pure, dry, bracing air (per cent. of humidity in the winter only 5), there are few days in which invalids cannot spend most of the time out of doors. The soil is sandy and porous, and there is an excellent system of underground drainage. The drinking-water, coming from mountain springs and melting snow is conducted to a reservoir 200 feet above the level of the city, filtered, and piped through the town.

The mineral springs, of a temperature of 85° to 120° F., have been analyzed with the following result. One pint contains of:

	Grains.
Carbonate of soda	3.85
Carbonate of magnesia	0.36
Carbonate of lime	1.19
Carbonate of iron	0.52
Chloride of sodium	0.52
Chloride of magnesium	trace
Chloride of calcium	trace
Sulphate of soda	3.67
Sulphate of magnesia	2.34
Sulphate of lime	0.43
Silicate of soda	0.51
Total	13 39

Baths of different temperatures, hot vapor and pool-baths, hot and cold douches are provided.

A stay at this place is indicated in phthisis pulmonalis and delayed or incomplete recovery from pneumonia; contra-indicated in certain organic heart diseases. It is situated on the Colorado Central Railroad, and receives four mails daily. The hotel accommodations are fair, sanitary conditions good, food and cooking excellent. Room and board $6 to $10 per week.

The drives are pleasant, and there are two livery-stables. There are four churches, a social and business men's club, and a library. Chicago Lakes, eleven thousand five hundred feet high, are only twelve miles distant.

Pueblo (the Mexican word for village) is situated upon the Arkansas River and possesses a climate so delightful that many invalids prefer to remain in this accessible spot rather than to endure the fatigues of a longer journey. The mean winter temperature is 30° F.; the air is dry and pure, as might be expected at an altitude of four thousand three hundred and seventeen feet. Mountains shelter the town from winds. The soil is chiefly sandy; the town sewage is carried into the Arkansas River; the drinking-water is obtained from mountain streams, river, and artesian wells. For those predisposed to phthisis, as well as for those in the early stages of the disease, the air is beneficial. Malarial diseases yield quickly to the climatic influences.

Pueblo is a railroad centre; the hotel accommodations range from first-class through all grades. Board is from $5 to $7 a week. The driving and riding is good, there is a good opera-house and a public library.

Cañon City, another of Colorado's health resorts, is situated at an altitude of five thousand two hundred and eighty feet, well protected from harsh winds by mountain ranges. The air is pure, dry, and mild in the winter, considering the altitude; sunny days preponderate. The soil is adobe on one side of the river, a sandy loam on the other. The sewage is disposed of partly by sewer pipes, and partly by garbage-carts. The source of the water is the Arkansas River. A mineral spring yields water which, according to Professor Leon, is "in mineral constituents and temperature very similar to Vichy." There are bathing establishments connected with the springs. The climate is considered beneficial in bronchitis and pulmonary tuberculosis and is contra-indicated in laryngeal tuberculosis.

There are good railroad, postal, and telegraphic facilities, and board may be obtained at from $6 to $10 per week.

South Park, a vast amphitheatre lying at an elevation of from eight thousand to ten thousand feet, surrounded by mighty snow mountains, possesses a climate of which Bayard Taylor wrote, "whatever effect the climate of the Rocky Mountain region may have upon the permanent settlers, there is no doubt that for travellers it is one of the most favorable in the world. It takes fat from the corpulent and gives it to the lean; it strengthens delicate lungs and paints pallid faces with color and invigorates every function of the system."

MINNESOTA.

This State was at one time much frequented in the winter by consumptives, but owing to exaggerated accounts of its merits and consequent disappointments in the results, subsequently fell somewhat into disfavor. It nevertheless possesses many qualities which render it suitable for such patients as desire a cold, dry, clear climate, with slight diurnal variations of temperature, and an abundance of sunshine. It is claimed that the climate of Minnesota is stimulating and beneficial to pulmonary and bronchial diseases accompanied by general debility or by malnutrition, or due to tuberculosis. The improvement of these conditions is supposed to be due to the direct or indirect effect of the climatic influences upon the functions of nutrition.

Minnesota is protected by its inland location from sudden or violent changes, it has, moreover, an elevation of about one thousand feet above the sea level. The winters, while intensely cold, are well borne, because of their uniform temperature and the dryness of the atmosphere.

St. Paul, the capital of the State, a city of one hundred and thirty-three thousand inhabitants, is situated on the Mississippi River, occupying both banks. The soil is dry, the sewerage system complete, and the drinking-water is obtained from Lake Phalon, three miles distant. The city is handsomely laid out, and possesses many fine buildings and all modern appliances of comfort. There are several good hotels, at which prices range from $5 to $10 a week, to $2 and $3 a day. The opera-house is a large building; there are several circulating libraries in town, an Academy of Science, and several hospitals.

Minneapolis is less sheltered than St. Paul, but is a fine and much-frequented city.

Red Wing and **Frontenac**, on Lake Pepin, an expansion of the Mississippi, are both sheltered by hills, and offer many attractions as winter resorts.

Winona, on the Mississippi, is well sheltered by high bluffs along the river, so that invalids need not fear high winds.

Faribault, which has been called the "town of homes," is a city forty six miles south of St. Paul. The air is dry, clear, and stimulating. The soil is somewhat sandy; a sewerage system is at present being constructed; the water is obtained from wells, and is said to be of the best quality.

Sufferers from nervous diseases and general debility have found benefit from the tonic qualities of the air. The city is the seat of the Episcopal Colleges, and State Schools for the Deaf and Dumb, the Blind, and the Imbecile, all of which have handsome and costly buildings.

Railroad and other facilities are good. There are several hotels, at which prices range from $3 to $7 weekly. Two rivers and adjacent lakes afford opportunity for water sports in their season, and there are good riding and driving facilities. There are seven libraries in the town.

THE BERMUDAS.

About five hundred and eighty miles south-south-east of Cape Hatteras is the group of islands referred to in Shakespeare's "Tempest" as the "still vext Bermoothes." Although numbering three hundred and sixty-five separate islands, many of these are mere rocks of coral formation, and only a small number of them are inhabited, the principal ones being Bermuda, or Long Island, St. George, Ireland, Somerset, and St. David's.

It is said of these isles that spring never forsakes them, and that their fields and woods are at all times clad with a mantle of green. The climate is a mean between that of the West Indies and North America, and is modified by the warmth of the Gulf Stream, which sweeps along between Bermuda and the American continent. The mean winter temperature is 64.88° F., the highest 77.5° F., and the lowest 50° F., and is not subject to sudden variations. The air is moist (75.83 per cent.) and like that found on a ship at sea. There is always a breeze, and occasionally a gale, so that invalids must seek a sheltered locality.

The soil is a disintegrated coralline limestone, mixed with clay. The sewage is carried by drain-pipes directly to the sea. The rain-water is collected from the stone roof and stored in stone cemented tanks, and is pure and tasteless. A residence in the Bermudas is considered of benefit to those predisposed to or suffering from bronchial or pulmonary affections, to asthmatic and rheumatic patients, to those affected with kidney complaints, to neurasthenics and all delicate persons who require a mild climate, rest, and change.

The Bermudas are by no means inaccessible. Steamers leave New York Thursday of every week; the voyage is one of about seventy hours at present, but it is hoped that in a year or two it may be reduced to forty hours. There are weekly steamers also from Halifax, Nova Scotia, and St. John's, N. B., and monthly steamers from London. There is a cable communication with the United States via Halifax.

The roads are good, and there is neither mud nor dust. Good and low-priced livery stables furnish all that is necessary for enjoyable rides and drives. The scenery is quietly picturesque, the views of the water are very beautiful, and there is some tropical vegetation. Oleander, passion-flower, geraniums, roses, and many other plants grow wild and in great profusion, while fruits of various kinds abound. There are many points of interest; the cottage occupied by Moore the poet, the "Calabash" tree under which he wrote, caves and grottos, Clarence Hill (the Admiral's residence), and many of the small islands. Boating is a constant diversion, and the fishing is said to be remarkably fine, since in no part of the world can there be found a greater variety or better fish than in the waters bordering on the shores of Bermuda. The North American fleet, "a social world in itself," winters in this place, and there are besides several regiments of infantry and companies of artillery and engineers. The officers give many entertainments, picnics, tennis parties, balls, boating excursions, etc., to the tourists every year. Visitors, if properly presented, are cordially received into Bermudian society.

Hamilton, the capital, is a town of about eight hundred inhabitants.

St. George has one of the most secure and beautiful harbors in the world. Its waters are as smooth as glass, being landlocked and protected from all winds. The hotels on the islands are good and are kept by Americans. The sanitary arrangements are spoken of as of especial excellence. Prices range from $14 to $35 a week. At boarding-houses from $6 to $14.

THE WEST INDIES

comprise so many groups of islands, in such different latitudes, that the climate of the various localities must necessarily differ in many important particulars.

The Bahamas, or **Lucayos**, which stretch from the eastern coast of Florida to the northern portion of Hayti, comprise about six hundred separate islands, which are of coral formation. The land is flat, but the soil is rich, and the vegetation abundant. All the tropical fruits, such as oranges, figs, bananas, pineapples, mango, and guava grow on the islands. The climate is mild and equable, the temperature in winter rarely falling below 60°F., and rarely rising above 70°F., while the diurnal variations are slight, constant sea-breezes change the atmosphere and keep it fresh and pure.

New Providence, the principal island of the group, is twenty miles long by seven wide. On its northern shore is *Nassau*, the capital, and the most frequented resort of any on this group of islands. It is picturesquely situated, possesses a fine harbor, and is a well planned city with macadamized streets and solidly built houses.

The mean winter temperature is 70.6° F.; the highest in three years was 85.7° F., the lowest 54.7° F. The usual per cent. of humidity in the winter is 68.3. The soil is a porous limestone; the water is obtained from wells and cisterns.

The hotel accommodations are good, and there are several excellent boarding-houses at which board is about $2 a day. At the chief hotel prices range from $17.50 to $28 per week. There is a library of about twelve thousand carefully chosen volumes in the city, while the opportunities for water sports are of the best.

Many persons suffering from pulmonary and bronchial affections, diseases of the kidney and bladder, and neurasthenia, find in Nassau a suitable climate for the alleviation of their complaints.

Harbor Island, a few miles from Nassau, and **Turk's Island**, at the extreme south of the group, are also somewhat frequented.

Cuba, the largest, richest, and most important of the Antilles, extends from latitude 19° 50′ to 23° 9′ north, and lies about one hundred and thirty miles south of Florida. It is about seven hundred and ninety miles long, and varies from twenty-eight to one hundred and twenty-seven miles in width. The Spaniards call it the "Garden of the West," the "Summer Isle of Eden," and other terms expressive of admiration for its beauty. A range of mountains runs through the central portion of the island, and is covered with dense forests. The scenery, while not majestic, is very beautiful, with its undulating slopes, green meadows, and luxuriant vegetation.

The climate is temperate and equable, the air kept in

motion by sea-breezes. The best season for invalids is from the first of December to the last of March, and the most healthful localities for them are inland, in the villages near the mountains.

Havana is the chosen resort of many invalids. It is the largest city of Cuba, and possesses one of the finest harbors in the world—deep, capacious, and well sheltered. The town is divided into two parts, the old and the new, the former being situated within and the latter without the city walls; they present a sharp contrast in the width of their streets and general appearance.

The city is bright and gay; and possesses many points of interest; a cathedral containing the ashes of Christopher Columbus, and several public buildings. Theatres and a circus provide entertainments, while the drives in the adjacent country are varied and delightful.

The hotels are good.

Matanzas, fifty-three miles east of Havana, possesses a milder and more even winter climate. The city is well built and pleasant. The hill called the Cumbre forms a more desirable residence for the invalid than the town itself.

Santiago, on the south side of the island, although possessing a delightful climate, is to be avoided by invalids on account of the poor water supply and the proximity to marshes.

Puerto Principe, in the interior, has a mild winter climate, free from some of the objectionable features of the coast resorts. The air is moist.

The Isle of Pines, thirty-three miles south of Havana, possesses a mild and healthful climate, and is preferred by many invalids to any other spot in the West Indies. The island is forty-three miles long, by about thirty-five wide in the widest part. There are three towns—Nueva Gerona, Santa Fé, and Jorobado.

Jamaica, about ninety miles south of Cuba, is the largest and most important British possession in the West Indies. It is nearly one hundred and fifty miles long by forty wide, and possesses scenery of the most beautiful character. Mountain ridges stretch in every direction, and range from low, gently sloping hills to peaks over seven thousand feet in height. Their summits are densely wooded. The soil of the island is very fertile, and varied in its nature. The climate is tropical, and oppressive in the low regions, but at very slight elevations the air is mild, delightful, and beneficial during the winter months.

Kingston, the capital, is an interesting town, and suitable during the winter months for phthisical patients. There is a new and large hotel in the place.

Invalids will, however, find the air of the uplands preferable to that of the coast.

Hayti, or **San Domingo**, possesses a climate which is highly praised for its healthfulness. The air is mild, the temperature equable, especially in the highlands. The island is four hundred miles long by one hundred and fifty wide, and possesses varied and beautiful scenery, with its mountains, rivers, magnificent forests of pine, mahogany, ebony, and lignum vitæ, and rich tropical vegetation.

Two republics divide the island between them. *Hayti* occupies the western portion. Its capital, *Port au-Prince*, is situated upon a beautiful bay, but is not recommended to invalids.

Cape Haytien possesses a better climate and is the better resort.

San Domingo, which occupies the eastern portion of the island, is the more healthful region. Its capital city, of the same name, is well built and attractive.

Porto Rico is one hundred miles long by forty broad. A mountain chain runs through the island from east to west, many smaller spurs extending north and south, and enclosing fertile valleys. The climate is considered delightful, and although in some localities rather too warm, is in others temperate and agreeable.

Santa Cruz, the largest island of the Virgin Group, has a reputation as a health resort. It is about twenty-seven miles long, and has a fertile soil which is well cultivated. The scenery is picturesque, as there are long ranges of high hills which here and there become mountainous. The climate is dry and warm, and very agreeable to sufferers from pulmonary diseases, rheumatism, and kidney troubles. "For equability of temperature, security from reverses for the invalid, a soothing balm in every breath that is drawn, with the accompaniments of natural charms, Santa Cruz has no competitor."

Christiansted and *Frederickstadt* are the principal towns. The hotels are good, but the invalid would better seek a home in the villages among the hills.

St. Thomas is one of the chief of the Virgin Islands, and is somewhat sought as a sanitarium by those suffering from phthisis or Bright's disease. The climate is mild and equable.

St. Vincent is one of the most interesting of the West India islands. The scenery is diversified by mountains and fertile valleys; there is a volcano with a crater three miles in circumference. The climate is warm and moist, but equable. The soil is gravelly and porous, so that although rains are frequent, the ground dries rapidly. *Kingston* is the capital and chief city.

Barbadoes.—This, the most easterly of the Caribbee Islands, possesses a mild, uniform, and healthy climate, of benefit to patients suffering from pulmonary or nephritic diseases. The temperature in December is from 73° to 85° F., but sea-breezes constantly change and color the air. The soil is partly sandy, and partly a rich loam, and is in a high state of cultivation. *Bridgetown* is the capital.

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Original Articles.

THE ETIOLOGY OF ITCHING.[1]

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PRURITUS, like neuralgia, like tinnitus, like photopsia or photophobia, is only a sensation, and therefore only a symptom. Though sometimes convenient to speak of it as a disease, we can call it so only by metonomy. Even when unassociated with any malady that is its obvious cause, when occurring as an idioneurosis of the skin, the symptomatic character of this sensation should still be recognized. It is the sensory manifestation of something unseen—of some morbid change unaccompanied by visible alterations. It is true, in a general way, that we speak of disease as any condition that is a departure from what is normal, from what constitutes the state of perfect health in the organism. In a literal sense, itching is dis-ease. But in the more restricted sense in which we speak of diseases in contra distinction to their symptoms, we understand by a disease an entire morbid process, which usually involves a series of morbid conditions, and constitutes as a whole a state of things that has an independent and typical character, and when named should imply a more or less complete diagnosis. In this sense itching or pruritus is not a disease. The disease is the nervous derangement involving some molecular or anatomical change that disturbs normal relations. Even evanescent itching, such as may be elicited by titillating the skin under conditions otherwise perfectly normal, is unquestionably dependent on molecular changes in the sensory nerves, which, though transitory, are for the time being abnormal, and the disturbance should logically be regarded as a disease. Practically, however, those transitory disturbances in the economy that are in a sense corrective, in that they indicate danger and suggest their own relief, and which disappear without trace of injury directly the relief is obtained, are not considered as diseases. Such a corrective disturbance occurs in natural hunger, and likewise in ordinary, or, as it might be called, natural, itching. Nevertheless, in its most aggravated and most persistent form, the proximate and only really efficient cause of the disturbance is not changed in its essential nature, but only modified in degree. Elsewhere,[2] in studying "the sensation of itching," it was sought to identify the nature of the disorder in pruritus as a condition of dysæsthesia which implies an interrupted or obstructed process as the proximate cause. When the itching becomes excessive, when the molecular interference or disorder becomes unduly exaggerated or prolonged, the nature of the proximate cause is not changed, but with it are conjoined other and secondary causes which serve as contributory factors. We are now concerned only with such pruritus as is excessive, with cases where itching either would not exist at all, or would be trifling, but for the presence of certain accessory morbid conditions. To determine what these conditions are is the object of the present inquiry.

A factor of prime importance in the production of excessive itching, and one that is nearly always present, is a state of cutaneous hyperæsthesia. Though the dysæsthesia, which I believe to be the primary and essential condition of all pruritus, may theoretically exist in excessive itching without abnormal irritability of the cutaneous nerves, practically, in the great majority of cases at least, the hyperæsthesia is present. It may be either congenital or acquired. It may be an inborn quality of the sensory nerves, or it may be incidental to some special disease, whether systemic or cutaneous. Though not necessarily accompanied by pruritus, when present it only requires the addition of some direct exciting cause to produce excessive itching. By hyperæsthesia here is meant a peculiar morbid state or property, not one in which all the senses are co-ordinately exaggerated. As a fact, in this state the more highly developed or perceptive senses are more apt to be impaired or perverted. It is an abnormal condition unfavorable to the highest functional activity of any organ. Such an hyperæsthesia is especially apt to affect those regions of the skin that are not the most highly endowed with the perceptive sense of touch. Thus it is more often manifested over the back than the anterior surfaces of the body. The arms are more subject to it than the hands. Apparently an exception to this rule exists in the case of the soles of the feet, perhaps due to the fact that an abundant sensory nervous apparatus has not here attained so high a degree of development as it has in the hands, and hence is more liable to derangement. Now, if it be true, as has been maintained, that in pruritus the sensory state is one of dysæsthesia, it is easy to understand why the presence of hyperæsthesia, such as just described, should be favorable to it. It has been demonstrated, indeed, by the æsthesiometer, that when pruritus is associated with hyperæsthesia of the surface, as in cases of eczema of a severe neurotic type, there is also well-marked hypopselaphesia, *i.e*, impairment of tactile sense.[1]

In the so-called pruriginous diseases which are attended with trophic changes in the skin, such as eczema, lichen, pemphigus, scabies, and the like, the itching is chiefly due to direct interference with involved sensory nerves, more particularly those in the epidermis; but when the irritation has been long continued the nerves would become almost necessarily more or less hyperæsthetic, and the pruritus unduly exaggerated. Often, however, the hyperæsthesia plays a more important part. In some cases of eczema, for example, the paramount symptom is the itching, which from the start is in excess of what could easily be accounted for by the inflammatory changes. Often, indeed, it is evident that but for this symptom the catarrhal disease would disappear or be insignificant, or perhaps never have occurred at all. Not an inconsiderable proportion of the cases of eczema are preceded by a prodromal stage of pruritus, and often there is reason to believe that when the eczema does occur it is only as a consequence of the scratching. So far as those chronic or subacute eczemas that occur about the genito-anal region are concerned, I believe that in the majority of cases (unless we include those that are clearly parasitic) they are secondary to a more or less prolonged pruritus. A preliminary state of cutaneous hyperæsthesia underlies all these forms of eczema, conjoined, doubtless, to a certain susceptibility to catarrhal inflammation.

A similar predisposition on the part of the sensory nerves exists in pruritus hiemalis. Associated with a motory disturbance it accounts for chronic urticaria, and for

[1] Read before the American Dermatological Association, at the Washington meeting, in September, 1891.

[2] The Sensation of Itching, MEDICAL RECORD, October 18, 1890.

[1] Compare Rendu: Des anesthésies spontanées, Thése de concours d'agrégation. Paris, 1875.

that excessive sensitiveness to irritating clothing or other irritating contacts in certain individuals, and partly perhaps for an unusual susceptibility to the bites and stings of insects. It may be only a temporary or a periodically recurring condition, or it may continue throughout life. It may be the temporary effect of certain systemic conditions; certain blood diseases, such as lithæmia, uræmia, diabetes mellitus, and icterus may give rise to it, or they may be the immediate cause of the pruritus either through the presence of their irritating products in the skin, or through causing derangement at the nervous centres. The hyperæsthesia that predisposes to itching may also be an incidental effect of hysteria, hypochondriasis, and various functional disturbances of the nervous system; and finally, it may be the consequence of a disturbance reflected from some distant organ or region.

In many cases the occurrence of pruritus, as well as the allied condition, urticaria, must be accounted for as the effect of what is known as "reflex irritation." That is, the pruritus is the result of sympathy of the affected skin with some focus of irritation more or less remote. It may be from an internal organ or from some other region of the skin. It is often observed that when one begins to scratch some itchy spot or a particular efflorescence of urticaria, other itchy spots or wheals immediately spring up in other places. In that common form of itching that occurs on disrobing at night, or in any form of pruritus, in fact, the moment one begins to use the nails the limits of the pruritic area seem to expand. Sometimes they advance before the hand in scratching like a wave. Again, points of irritation will suddenly arise in remote parts of the cutaneous surface. Occasionally it seems as though direct lines of communication existed between certain points of the skin far away from each other; so that when one of these is scratched or irritated, the other directly responds with a similar sense of irritation. Dr. Bulkley first called attention to this last peculiar phase of reflex irritation in the skin, in a paper[1] read four years ago before the American Dermatological Association. The fact, which may be easily verified, is especially interesting as explaining many instances in which irritative cutaneous diseases spread otherwise than *per continuitatem*. Doubtless such reflex irritation could not occur unless the nerves of the skin were more or less hyperæsthetic.

Reflex irritation is equally manifest in cases of pruritus associated with irritation interior to the skin, as in pruritus ani from ascarides in the rectum, from internal hæmorrhoids, or from urethral stricture; in pruritus vulvæ from disorders of the internal genitals of the female, or in the more generalized pruritus that is sometimes observed in pregnancy or associated with other uterine disturbances, or that may follow embarrassed digestion.

Very often the phrase reflex irritation, like the older one *metastasis*, is used with only vague apprehension of the real conditions. When pruritus or urticaria is evidently consequent upon the ingestion of irritating articles of food or medicament, it is usually attributed to a gastro-intestinal irritation of which the cutaneous effect is supposed to be an expression of sympathy—a reflected irritation. But the primary irritation may be at the nervous centres, whence it may be directly communicated to the skin. Or more directly still, the irritating substance that was ingested may be brought into the skin itself through the circulation, and come in direct contact with the sensory nerves, thus causing the pruritus. It should be borne in mind that the skin is an important emunctory organ, and when toxic matters are circulating in the body there is a natural trend toward the surface, thereby exposing the skin to irritation in a special and direct manner. Sometimes the reaction shows itself in the form of inflammation, as in the infectious exanthemata and probably in syphilis; sometimes, when the toxic matter is less virulent, the effect may be simply a pruritus or an urticaria.

[1] Clinical Notes on Pruritus, Journal of Cutaneous and Genito-urinary Diseases, December, 1887.

Thus, independently of any preliminary hyperæsthesia, the presence in the cutaneous circulation of a materies morbi, whether it be a ptomaïne, a leucomaïne, some product of imperfect oxidation, an element of the bile or of the urine, may become the direct exciting cause of pruritus, producing it in the same way as would a foreign body, a vesicle, or other trophic change in the skin.

Likewise, with regard to those regional forms of pruritus that affect the progenitalia and the anus, though reflex irritation undoubtedly often plays a very important part, there are other factors that should not be lost sight of. It is a common opinion that pruritus ani is very often associated with hæmorrhoids, but I believe this to be an error. Certainly, in the great majority of cases there is no such connection. It is doubtful, too, if it has anything to do with the portal circulation. At least cholagogue cathartics have seemed to me to have little or no influence on the trouble. Intestinal indigestion will often aggravate it, or even account for transitory attacks, and it may be due to long-continued irritation of the intestinal canal from any cause. The itching from intestinal worms, especially from ascarides in the rectum, is also a well-known instance of reflex irritation. In the same way pruritus vulvæ may be the consequence of uterine or ovarian disease. It is probably more commonly so than the effect simply of leucorrhœal discharge, which, though it may cause erythema, erosion. and eczema of the progenitalia, would hardly by itself and primarily account for pruritus. But I believe that in most instances the pruritus in these situations, as well as in that which affects the scrotum, or by extension the perineum, is most apt to be the expression of a localized neurosis which may as well be the consequence of a generalized morbid condition of the economy, such as that in lithæmia, as from any disturbance in the neighboring organs. Such conditions, it is true, often tend to vitiation of the local secretions and would thus aggravate the trouble, if not, in some cases, suffice to account for it. Some of the severest cases of pruritus of the genitals, which may, too, be attended with intense inflammation, are associated with glycosuria. But in a very considerable number of the cases of pruritus in these regions the affection is chiefly and primarily dependent on a preliminary condition of hyperæsthesia, to which the natural and particular irritability of these parts, together with their peculiar tendency to perverted sensation, renders them especially subject.

Thus far, among all the predisposing causes of pruritus that have been referred to, by implication hyperæsthesia has been considered as the sole essential factor and the one invariably present where such causes exist. It has been intimated, too, that this essential factor is effective only as it is associated with the element of hypopselaphesia. When to these two is added an appropriate exciting cause, we have all the elements most conducive to the dysæsthesia of pruritus. It would seem not impossible that simple impairment of the medium of special sense, without any preliminary hyperæsthesia, may at times suffice as the predisposing cause. Such impairment may in some measure account for the pruritus of old age.

The term pruritus senilis is often used somewhat indefinitely for any persistent itching without manifest cause occurring in old people. Properly, it should only relate to what is a consequence of nutritive changes peculiar to old age. It has been regarded as due to atrophic degeneration of the cutaneous nerves, and like alopecia senilis, a direct effect of decay in the skin. Such a conjecture is not without show of reason. It is a well-known fact that in old age all the elements of the skin, including the nerves and unstriped muscular fibres, undergo atrophic changes. As a general effect of the senile marasmus, all the special senses become more or less obtunded. Regarding pruritus as being essentially a form of dysæsthesia, and considering its relation to impaired sense of touch, it is easy to see why the conditions in senile decay would be favorable to the occurrence of

itching. Similarly atrophic conditions in the eye and ear are sometimes attended with photopsia and tinnitus aurium, which would seem to have a certain analogy with cutaneous pruritus. How common photopsia is in the aged, I am unable to say, but tinnitus is said to be a not infrequent accompaniment of senile degeneration, sometimes occurring when there is complete anæsthesia of the acoustic nerve. Both these symptoms, however, are usually associated with some special derangement of mechanism or with some special irritation of the nerves involved, to which the disturbance of sense may be more or less attributable. In pruritus senilis the conditions are such as require no other excitants to produce the itching than the ordinary contact of clothing, or even changes of temperature, which usually suffice to produce pruritus only where cutaneous hyperæsthesia is present. Hyperæsthesia would hardly be produced by atrophy alone. It is probable, however, that in a large proportion of cases to which the term pruritus senilis is applied, the atrophic changes in the skin are insufficient to account for the trouble. It is very certain, indeed, that often other causes at least contribute, if they do not alone suffice, to produce it. Many of these are incidental and more or less general effects of the senile decay, such as imperfect action of the emunctories, circulation of products of imperfect oxidation, defective metabolism, all those conditions that may be summed up in the word arthritism; these undoubtedly are all potentially predisposing causes. Finally, the atrophic changes at the nerve-centres may play a part not less, and perhaps more, important than those at the periphery.

Though hitherto we have mainly considered those causes that are predisposing, incidentally many of the exciting causes have been alluded to. We have seen that these are not necessarily confined to such as act from without. Not only may irritative atrophic changes in the skin excite pruritus, but a direct irritation may be caused by abnormal elements in the circulation or be transmitted directly from deranged nervous centres. It is easy to see why trophic changes should cause pruritus, especially if seated in the epidermis. The involved nerves may be irritated by pressure, constriction, or other interference with normal function. Simply by inducing metabolic changes, the molecular movements would be disturbed with resulting perturbation of sensation. Occasionally nerves are found degenerated, though such degenerated nerves may or not be the source of the pruritus. Irritating materials in the cutaneous circulation would be somewhat less apt to excite itching directly than the agencies just cited, while such forms of pruritus as depend upon a preliminary hyperæsthesia are probably rarely absolutely spontaneous. A provoking cause must be added. It may be the slightest external contact, the touch of the clothing, a breath of air, or slightest change of temperature. In many cases of pruritus, apparently spontaneous, there is, I believe, one source of excitation of considerable moment that has commonly been overlooked. I refer to muscular action, more particularly of the arrectores pilorum. It may be associated with inflammatory irritation or not. Speaking generally, hyperkinesis is very often associated with hyperæsthesia. Such disturbances of motility as muscular spasm and contracture are not infrequent accompaniments of excessive nervous excitement. They often give rise to pain, as well as result from it. I believe that similar relations exist between disturbances of motility in the cutaneous muscles and pruritus.

It will not be denied that the hairy regions of the body are especially subject to pruritus. The extensor surfaces of the legs and arms are more often affected by it than the flexor, and doubtless chiefly for the reason that they are more abundantly supplied with hairs. Such hairy regions as the scalp, the bearded portions of the face, the genitals, and borders of the anus, are especially apt to be the seat of itching. Their hairiness is of course not the sole cause of the itching, which may be chiefly due to the influence of conditions far removed. In pruritus of the genitalia and anus the irritation, it is true, often extends well into the mucous orifices. Nevertheless its principal seat is always external and the disorder usually begins just at the margins, where the hairs are abundant. Certainly in those forms of pruritus that depend on purely local and external irritation, the hairs unquestionably play an important part. In no way can this annoying sensation be more readily produced than by tickling the sensitive hairs. This effect is well evinced in the irritation caused by the wearing of coarse woollens next to the skin. In the so-called "flannel eczema" the affection always begins about the hair-follicles. It is invariably a papular exanthem, and each papule may be seen to be transfixed by a hair. The course of events is pretty clearly the following: First, the little projecting fibres of the wool, tangling about and tickling the hairs of the skin, cause itching. Through contraction of the arrectores pilorum muscles the follicles are elevated, producing that state known as "goose-flesh." When the itching surface is scratched, as it naturally would be, the finger-nails impinging against these little elevations cause more irritation at these points, abrasion, and, finally, a papular inflammation.

Here the motory disturbance is clearly secondary to the sensory. But in other cases hyperkinesis is apparently precedent. The itching that is so common on removing the clothing and exposing the surface to the cool air, is always an accompaniment of cutis anserina. In the pruritus hiemalis, which is apparently but an exaggeration of this same effect, the same condition of the skin is generally well marked, particularly during the paroxysms of itching. Is there any connection between this effect on the motility of the skin and the pruritus other than simply an accidental one? The condition of "goose-flesh" is most commonly associated with change of temperature, more particularly with exposure to cold, and generally the only sense concerned is the temperature sense. The erection of the hairs and contraction of the skin accompanying it tend to approximate the hairs nearer together. In lower animals with hairy covering the effect of this action is to more effectually cover and protect the surface from cold. But this is not its only purpose. Bristling of the hairs, as much as erect ears, denotes alertness and vigilance for defence. Each hair is to a certain degree an organ of sense, and that it may be used to its fullest advantage it is erected and projected as far as possible to guard the animal at every point of its environment. In men the hairs are but analogues, but they retain the same properties that once gave their possessors certain advantages of defence. Horrida cutis is still the natural concomitant of shuddering, and hairs standing on end are the common signal of alarm or sudden fright. Itching is not usually associated with these contractions of the cutaneous muscles, unless the sense of contact is fairly engaged, unless the excited hairs touch something, and then only when the sense is vexed and fretted. But it is a fact that spasmodic muscular contractions of the skin may be produced by instinctive apprehension of an offensive contact. It only requires a state of hyperæsthesia to convert this apprehension into a fancied realization. It is hardly presuming too much to suppose that, given a hyperæsthetic condition of the skin, the existence of spasm of the arrectores, from whatever source it may arise, would suffice to evoke by suggestion the very same nervous impressions that are commonly and instinctively associated with it when the result of external contacts. Now, these impressions may concern either the temperature sense or the sense of touch. Hence such an inverted sequence of events as has been assumed would help explain, not only the itching of urticaria or other forms of pruritus attended with muscular spasm, but also perhaps the sense of cold in nervous rigors. As a rule, however, these two sensations do not occur simultaneously. "Goose-flesh" is not always nor usually attended with itching. The sense of temperature ordinarily dominates and excludes the sense of contact, and pruritus occurs

only when the latter sense is hyperæsthetic and the temperature sense only moderately affected. Such are the conditions in certain subjects when surfaces of the body habitually clothed are suddenly denuded, as well as under the influence of more continued cold in individuals who suffer from pruritus hiemalis.

To fully appreciate the effect of spasmodic contractions of the arrectores pilorum muscles, it is necessary to bear in mind the intimate connection of these muscles with the highly sensitive external root-sheaths of the hairs on the one hand, and with the under surface of the general epidermis on the other. Situated as they are, their energetic contraction could hardly fail to create more or less commotion in the sensory nerves of the adjacent portions of the rete, particularly in conditions of hyperæsthesia. With these considerations in view, the hypertrophy of these muscles that is such a common accompaniment of the so-called pruriginous diseases becomes a factor of much greater significance than that usually accorded to it. Doubtless, in most cases of pruritus, muscular spasm plays only the subordinate *rôle* of a contributory factor in the causation of the sensation. Usually the exciting cause is a direct irritation of the sensory nerves, either transmitted from centres interior to the skin or else developed locally as the immediate effect of nutritive or trophic changes in the skin. When the muscles become hypertrophied it is more apt to be the consequence than the cause of the pruritus, but is capable, I believe, of acting both ways, and is surely, as it seems to me, something more than merely an incidental effect of inflammation.

In connection with this subject the spasmodic condition of the cutaneous muscles in urticaria (a malady closely related to pruritus) is worth considering. It is admitted that the spastic muscular contractions are of the most essential importance in accounting for the manifestations of this affection. According to Unna,[1] the entire mechanism in the production of the wheal is to be explained as the effect of spasmodic contraction of the muscular coat of the veins, which by reducing the calibre of these vessels prevents their receiving the lymph from the adjacent tissue, where in consequence it accumulates in distended lymph-spaces, forming little lacunæ, first in the deeper parts of the skin, then higher up, and finally overflowing into the rete. Thus the localized œdema is accounted for, while the ischæmia may be partly the effect of pressure and partly of an extension of the spasm to the muscular coats of the superficial arterioles. But it does not explain the itching. The invariable association of sensory and motory disturbances in the disease must be something more than accidental coincidence. If the eruption of a wheal in nettle rash be carefully observed from the beginning, as may be done when the eruption is provoked by smartly rubbing the skin, it will be seen that the first thing to appear, after the erythematous redness excited by the irritation has continued for a little while, is the elevation of fine papules not unlike those of cutis anserina, and to all appearance produced in the same way—by spasm of the arrectores pilorum muscles. This phenomenon could be very prettily seen in a case of chronic or recurrent urticaria, in which wheals of enormous size could be produced by simple application of a cold wet sponge to the skin. First appeared the erythema, then the papular elevations that seemed to occupy the sites of hair-follicles, and then a general swelling and ischæmia gradually overspreading the entire area to which the cold had been applied. The itching begins with the appearance of the papules, and gradually grows intenser with the development of the wheal. What simpler and more reasonable explanation of the perturbed sensation than to ascribe it to the action of spastic muscular contraction affecting directly the sensory nerves?

Why a pruritic disease should at one time be attended with urticaria and at another not, we can no more explain than why a general neurotic condition should at one time manifest itself in hysteria or neuralgia, and at another in chorea. The urticarial hyperkinesis does unquestionably complicate very many pruritic affections. It is present in a great variety of conditions other than those commonly denominated urticaria toxica or urticaria chronica. It may be produced solely by external irritation, especially in individuals with peculiarly sensitive skins. Under such circumstances it may be caused by prolonged irritation from pediculi, from cimices, and from the presence in the skin of the sarcoptes scabiei. Its occurrence always denotes a condition of great cutaneous irritability. In some cases of acute papular eczema the papules will here and there have the peculiar blanched and swollen appearance that is characteristic of urticaria, and in such cases the itching is always intense; and usually it may be inferred that the eczematous element is but a secondary matter, while the most essential thing is a neuropathic disease attended with hyperæsthesia of both the sensory and motory nerves of the skin. The neuropathic predisposition may include among its effects the production of various trophic changes in the skin.

Such a tropho-neurosis may be the pathological condition in prurigo—the prurigo of Hebra, as maintained by Schwimmer and others. But that the neurosis in this disease gives rise to a particular papular lesion that is pathognomonic, I am not prepared to admit. According to my recollection of what I saw in Vienna, much less attention is paid there to any particular papules than to the general roughness and thickening of the skin occurring over the peroneal aspects of the legs and the outer surfaces of the arms, and to the persistency of pruritus in these situations. A pruritus that had existed more or less continuously from early life, and affected chiefly the above localities, invariably exempting the flexor surfaces, was pretty certainly prurigo, and when particular regions of the skin have itched more or less constantly for a lifetime, they are pretty apt to show effects of scratching in the shape of trophic lesions. Among these secondary effects of scratching and of the consequent inflammation, Auspitz numbered the so-called "prurigo papules." He regarded the disease as a sensory and motory neurosis combined, and found evidence in the pathological anatomy of exaggerated muscular action. Others have regarded the papules as closely allied to, if not identical with, the lesions of urticaria. Whether this be so or not, it is a well-known fact that urticaria plays an important part in this disease, that in its incipiency it may exist for a long time under the aspect of a persistent eruption of wheals in those situations usually affected in prurigo.

Taylor and Van Giesen, in their very interesting paper, have described the papules of prurigo as due to what the latter has termed "epidermal cysts," which are the product of liquefactive changes in the protoplasm of the rete-cells. Similar liquefactive changes have also been described in connection with the vesiculation of eczema. I am sure I have seen cases of eczema, and also severe cases of pruritus hiemalis with skin lesions, that neither on account of their location nor their general appearance could easily be distinguished from those of prurigo. Their papular character may have been due to an urticarial element not at the time apparent. It is not always easy, when trophic changes in the skin are associated with pruritus, to distinguish between what is primary and an essential part of the disease, and what is secondary and the effect of scratching. Indeed one may be over concerned about papules and vesicles and wheals and other so-called primary lesions of skin disease. The lesions are characters in which we read clinically a history and a process, but not only in the morphology of their individual efflorescences but in the arrangement, distribution, mode of evolution and involution, as well as in their associated phenomena. Every skin disease that is attended with any external manifestations at all has a physiognomy of its own that does not depend upon any one feature

[1] Beiträge zur Anatomie und Pathogenese der Urticaria simplex und pigmentosa, von Dr. P. G. Unna; Dermatologische Studien, 3. Heft, 1887. Hamburg und Leipzig.

but on the sum total of all its features. The diagnosis of eczema does not need the vesicle, nor that of scabies the cuniculus. Even granting that the "prurigo papule" were of equal importance to its disease with the vesicle and cuniculus to eczema and scabies, its discovery is by no means essential to the diagnosis. But such an equality is not granted. There is reason to believe that the prurigo papule is not absolutely essential. It cannot be denied, at least, that the severity of the itching is often out of all proportion to the trophic changes, and this is admitted by Schwimmer, who calls the disease a trophoneurosis. The papules may be insignificant or imperceptible, and yet the disease unquestionably exist. In the young child there may be no lesions other than wheals. The only absolutely essential factor thus far shown is the sensory neurosis. Whether to this there is always conjoined a motory neurosis, which is unquestionably present at the beginning, may not be positively asserted, but that such a coincidence is probable, and that whenever such motory disturbance does exist it would act as an accessory to the pruritus, appear to me reasonable propositions.

Such, then, are the pathological conditions that, as contributory factors, may be associated with pruritus. It has already been intimated that the primary or proximate cause of itching pertains to hidden molecular or dynamic changes within the sensory nervous apparatus, changes whose immediate effect has been presumed to be of the nature of a dysæsthesia, and whose only ostensible sign is the perturbed sensation.

The accessory pathological causes may be divided into predisposing and exciting, and tabulated as follows:

Predisposing Causes.—*A.* A state of cutaneous hyperæsthesia, or morbid and excessive irritability of the cutaneous nerves.

It may occur,

a. As the local expression of a general neurotic condition, either congenital or acquired, in which case the simplest excitants, such as friction of clothing or changes of temperature, may suffice to evoke the sensation; or

b. It may be due to local changes in the skin, attended with prolonged irritation of the cutaneous sensory nerves.

B. A state of hypopselaphesia, *i.e.*, a state of impaired conduction in the cutaneous nerves of tactile sense. Though usually occurring as a concomitant of hyperæsthesia of the skin, it is possible that it may exist independently of the latter, as in atrophic conditions (more particularly in pruritus senilis), when, like hyperæsthesia, it may become the predisposing cause of itching.

Exciting Causes.—*A.* Irritations conveyed to the skin from the interior of the body, either as

a. Reflex irritations; or as

b Irritations transmitted from nervous centres.

B. Direct or local irritations,

a. From extraneous sources, *i.e.*, from such irritants as operate upon the surface of the skin;

b. From intra cutaneous sources, comprising

1. Lesions of trophic cutaneous diseases and their products;

2. Toxic or noxious materials deposited from the blood;

3. Effects of local nutritive disturbances, or deranged metabolism in the cutaneous sensory nerves;

4. Spastic contraction of the arrectores pilorum muscles, which though it may not of itself suffice to cause itching, is probably often associated with other causes as a contributory factor.

Gunpowder Stains of the Face.—These may be removed by painting with biniodide of ammonium, distilled water, equal parts; then with dilute hydrochloric acid, to reach the tissues more deeply affected.—*Revue de Thérapeutique.*

EXCISION OF THE SYPHILITIC CHANCRE.

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In a recent number of this journal[1] Dr. R. W. Taylor asserts very emphatically his disbelief in the utility of excision of the chancre as an abortive treatment of syphilis, and advances some excellent reasons for his view; and though I take the liberty of differing from him in this matter, it is not my intention to open a discussion on a subject which for the present has passed the stage of simple discussion. Dr. Taylor says: "The consensus of opinion among advanced syphilographers of to-day is that the operation is utterly futile, and only a small number of them . . . still cling to the opinion that syphilis may thus be suppressed;" and it is mainly to correct this misapprehension, and to combat the idea that excision of the chancre has been relegated to the limbo of useless operations, that I write these lines.

The Section of Dermatology and Syphilis, of the International Medical Congress at Berlin, last year, of which I had the honor of being one of the secretaries, contained probably as representative a body of "advanced syphilographers" as were ever brought together, and this question of the value of excision of the chancre was one of the regular subjects for debate. In my report of the proceedings of the Section to one of the journals I sum up this discussion as follows: "As to the results of excision of the chancre, there was, with the exception of Neumann (Vienna), who finds excision useless, complete unanimity. All are agreed as to the theoretical possibility of aborting syphilis by the early excision of its initial lesion. It gives the patient at least a chance for a mild syphilis, which it is incumbent on the physician to offer him." The Berlin Congress afforded the most recent general discussion on this subject, and its result will certainly not warrant the conclusions that "the consensus of opinion among advanced syphilographers is that the operation is utterly futile."

No one to-day, in cutting out a chancre, would be justified in promising his patient that the operation will prevent the syphilis from becoming general. The successful cases reported admit of two explanations. They may be explained as due to errors in the diagnosis of the chancre, or as belonging to that category of cases, which are reported occasionally, in which no symptoms of general syphilis appear, notwithstanding the occurrence of a chancre in all respects typically specific. The fact that the cell-proliferation extends along the vessels, at an early date, to a considerable distance from the chancre—a fact to which Taylor's and Van Giesen's histological studies afford a valuable confirmation—teaches us that in most cases excision of the syphilitic growth can be only partial. On the other hand, the observations of Auspitz, Unna, Pick, and many others, go to show that it is perhaps sometimes possible to remove the primary syphiloma entirely. But there are other grounds on which the operation seems rational.

The inoculation with the syphilitic virus is followed very soon— long before the chancre makes itself apparent, for at the earliest period at which we recognize it the process is already well advanced—by an inflammatory reaction. This reaction is largely protective in its nature; it is the defence which the vessels throw out against the invading poison. If the virus be feeble, or the cells of high vitality and resistance, the poison may be destroyed at its point of entry, and the infection prevented from becoming general. This we know happens frequently with the bacillus of tuberculosis. It is not uncommon to find on the post-mortem table evidence of a slight tubercular process in the lungs which has become encapsuled, and which never gave rise to a noticeable symptom during life. Whether anything like this happens in syphilis can be only a matter of conjecture,

[1] MEDICAL RECORD, July 4, 1891.

but certainly the number of well-authenticated cases of hard chancre in which no further symptoms of syphilis developed lends some color to the view that the syphilitic virus may be destroyed by purely natural processes at the point of inoculation. However this may be, we are certainly safe in assuming that the virus is delayed in its onward course by the infiltration which constitutes the chancre.

But the bacteriological researches of Bouchard and Chauveau have demonstrated the fact that the intensity of an infection is (within limits) directly dependent on the number of pathogenic organisms. If, therefore, we remove the reservoir of infection by excising the chancre promptly, we are helping the organism in its struggle against the invader, and there is at least a theoretical possibility that the intensity of the infection will be mitigated. That this is actually the case, there is a considerable amount of evidence. At the Berlin Congress, Ehlers, of Copenhagen, reported thirty-seven excisions in which the patients had remained under observation for several years. In only ten per cent. of these did severe forms of syphilis develop, whereas the proportion of cases of severe syphilis in general is about thirty-five per cent. Of fifteen cases which Jullien operated upon, three showed absolutely no signs of syphilis later, and in a fourth the disease was so attenuated—if not wholly eradicated—that the patient acquired later a second syphilitic chancre. Leloir, in a recent paper, reports several cases in which absence of all symptoms followed after excision of the chancre.

We are warranted, from these and similar cases which might be multiplied, as well as from purely theoretical considerations, in the conclusion that there is some probability that a syphilis may be aborted by the early excision of its initial lesion, and a considerable probability that its course will be rendered more benign.

The question is certainly not *res adjudicata*. What is needed in its present stage is more evidence. Altogether four hundred or five hundred cases of excision have been reported. I have no doubt that two or three times that number of operations have been made that were never published. Most of these probably were made at the time this method of treatment was first generally discussed, and in the six or eight years that have elapsed sufficient time has been afforded for a judgment of the effect of the operation in the individual cases. Physicians who have notes of such excisions and their results would do much to effect a final settlement of the value of the operation by publishing them. In preparing these notes it would be well to record the following points:

1. *a*. A precise description of the chancre with the evidence as to its specific character.

b. Number of days from the probable date of infection to the appearance of the chancre.

c. Length of period between the appearance of the chancre and its excision.

2. *a*. Was the line of incision made at a distance from the chancre?

b. Was the wound allowed to heal by granulation, or was it sutured?

c. Did the wound heal well, leaving a normal cicatrix?

3. *a*. Did secondary symptoms develop? If so,

b. What was their nature and distribution? and,

c. At what period after the appearance of the chancre did they occur?

4. Was any general antisyphilitic treatment employed?

5. *a*. Did later lesions of syphilis develop?

b. What was their character and time of appearance?

It will be possible to form a final judgment as to the value of excision of the chancre only when several thousand carefully observed cases have been recorded. Half a dozen cases with negative results prove no more than an equal number of cases in which syphilis has been aborted, and it seems to me only reasonable, in the light of all the facts, to withhold a dogmatic opinion until a sufficiently large number of cases has been collected on which to base an induction. The matter is certainly of sufficient importance to merit careful study.

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SOME CLINICAL JOTTINGS ON TWENTY CASES OF PUERPERAL ECLAMPSIA.

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I have had twenty cases of puerperal eclampsia out of three hundred and thirty-five cases of labor, a very remarkable percentage, and I have jotted down the points of interest and of practical bearing as they have appeared to me. Charpentier, from a table of figures from different countries of Europe, estimated the frequency of eclampsia as one case in three hundred and fifty-four confinements. The disease seems to be more frequent in tropical and semi-tropical countries, and negroes are more liable to it than whites. With the many theoretical problems which have gathered about this very interesting disease I shall have nothing to do. Few diseases have had more theories advanced both as to pathology and treatment, and yet its real ultimate cause eludes us, and we must be content with the very broad pathological idea of blood-poisoning. What this poison or poisons may be remains to be seen; it is probably the product of the peculiar and excessive tissue changes of pregnancy. The idea of its microbic origin has not been seriously entertained by the profession, despite the experiments of Blanc and Scarlini. Its true pathology is evidently a very complicated one, the complication being a very subtle action and reaction between the poisoned blood and nerve-centres. This seems to be as close as we can get at present. That there has been an advance in its treatment, both prophylactic and actual, admits of no doubt, and this is largely the result of mere empiricism; certain remedies discovered within the last fifty years have been tried and found beneficial. Advances in the future will depend, I believe, upon more accurate and extensive chemical and microscopical examinations of the blood and urine, and more sharply defined indications for the drugs and methods now employed.

The following observations are now very generally admitted:

That puerperal eclampsia assumes various forms, sometimes very mild and quickly recovering with little or no treatment, and again very severe, up to the foudroyant type, which quickly kills in spite of all treatment, mild or severe.

Again, cases which do not seem very violent succumb finally, while others, apparently hopeless, recover, due evidently to latent and reserve powers of resistance. That primiparæ, with their excitable nervous system and untried powers of endurance, suffer much more than multiparæ. That the condition and amount of the urine, the quantity of albumin, the character of the casts; its specific gravity, the amount of urea, etc., are valuable indices of the severity of the case. That the temperature and pulse are valuable guides to prognosis and treatment. That the timely recognition of the usual premonitory signs, the albuminuria, and certain nerve-symptoms, are valuable guides for prophylactic treatment; and that a judicious and prompt prophylaxis may ward off an attack otherwise fatal.

When we come to the treatment we shall find great diversity of opinion. While in Paris last summer, I took occasion to hunt up all the literature I could find on the subject, and verily it was every man for himself. The best *résumé* up to 1872 is that of Dr. A. Charpentier,[1] the substance of which may be found in the "Cyclopædia of Obstetrics and Gynecology," vol. ii., William Wood &

[1] De l'Influence des divers Traitements sur les Accès éclamptiques par le Dr. A. Charpentier. Paris, 1872.

Co., 1887. I haven't much confidence, however, in his figures, for his pet drug is chloral, and he attempts to prove too much. Still there is valuable information to be found there, and it will well repay its reading.

Amid the host of remedies, however, a few stand out prominently and hold their ground in spite of all contradictions. They are blood letting, chloroform, morphine, and chloral, and in conjunction with as rapid a delivery as possible. The better chances of the mother delivered are generally admitted; the question is with some, whether the extra shock of rapid delivery to over-excited nerve-centres does not counterbalance the good it may otherwise do. The answer to this doubt is found in complete chloroform narcosis. With this drug shock is reduced to its minimum and the convulsions as well held in check.

My own views and experience as to treatment may be briefly stated.

In the way of prophylaxis, when albuminuria, anasarca, and certain nervous symptoms point to impending trouble, I institute immediately, as far as practicable, the milk diet so successfully carried out by Tarnier, in conjunction with a regulation of the digestive organs, and a free action of the bowels, kidneys, and skin. This can usually be accomplished by simple means. The philosophy of the milk diet consists in a fully adequate nourishment of the patient with the least labor upon the digestive organs and emunctories Should this treatment fail and threatening symptoms still continue, I have great faith in the efficacy of bleeding. When convulsions are imminent I believe it will ward off an attack, and perhaps enable the patient to steer clear of it altogether. I have myself never used it in a prophylactic way, and my faith in it rests upon its value during an attack and the testimony of some who have seen its benefits. My uncle, Dr. Hiram Corson, who has published the results of three thousand and thirty six cases of labor, informs me that he has bled nine cases where convulsions threatened, and warded off the attack in every case. He, moreover, bleeds profusely. With a certain class there is abundant opportunity of carrying out this treatment; unfortunately, with the majority of patients, the physician is only called when labor has set in and the patient is already in convulsions. With the negroes in the hands of ignorant midwives, the physician is rarely called before the patient has had a number of convulsions and the disease has progressed too far to see much benefit from any treatment. This, at any rate, has been my experience.

Puerperal eclampsia is a disease the very nature of which demands prompt action; its natural tendency is from bad to worse. The physician who gets his case in the very beginning has a great advantage. Let him find out at once if labor has begun and if the case has reached term. He must decide at once to what extent he must aid and hasten delivery. The objection that forced dilatation of the cervix and the application of the forceps shock the already over-excited nerve-centres can be answered by complete anæsthesia. Under chloroform the nerve-centres are put to sleep, the condition of the uterus and its contents can be thoroughly examined and ascertained, and without retarding much the pains, which will usually be found to progress steadily in spite of convulsions—provided, of course, labor has reached full term; if necessary, the cervix may be dilated and labor further hastened by forceps or version, as the case may indicate. And this anæsthesia may be kept up for several hours sufficiently to control convulsions. It puts the nerve-centres in a splint till the storm blows over, and is, I believe, our most valuable remedy. It is the remedy to begin with; it enables us to grasp the case properly and understand its severity and dangers, and decide upon the plan of treatment without losing any time. If I have no chloroform I use ether to save time, but I believe chloroform to be the better drug of the two in this condition.

A tight and rigid cervix I attempt to overcome by bleeding, Barnes dilators, or the hand. As soon as the cervix permits it I deliver at once. If I have had to regret anything, it has been delay rather than too great interference. In certain cases where the convulsions have come on just at the close of labor or afterward, I have regretted delay which could easily have been overcome. And further, I believe the child's chances are better in rapid delivery. Every convulsion menaces the child.

Bleeding was the remedy years ago; the trouble was it was used indiscriminately, was too heroically employed, and it fell into disfavor. It is now coming back again, restricted and modified. For a long time I could not make up my mind to use it. I was under the impression that the system lost quite enough blood on the delivery of the placenta. During the last three years I have bled several patients with excellent results, and I have gained great confidence in the remedy when properly applied. In the severer cases of eclampsia, and where bleeding is most useful, there is apt to be but little or no hemorrhage with or following the delivery of the placenta, and I have found that one of the first indications of the approaching convulsion would be a complete suppression of the lochia. For this reason I am careful to have the nurse watch this symptom, and an unstained guard puts me on the lookout at once. This lochial suppression is accompanied by a diminished or suppressed flow of urine. I have seen the withdrawal of a pint of blood immediately start up the lochia again and tide the patient over the critical moment. The withdrawal of blood, varying in quantity from a pint to a quart, will in itself stop the convulsions for a time, at any rate; a full, bounding quick pulse will be reduced in volume and frequency, and, strange as it may seem, a weak and rapid pulse will become stronger and slower. As far as my experience goes, this latter pulse is the one most frequently met with. Even during convalescence the pulse is apt to be high. Under the same influence a hard and rigid cervix will soften, a diminished or suppressed flow of urine will start up again.

A patient in puerperal convulsions, with all its attendant conditions, will be found to require much larger doses of anodynes and narcotics to produce their effects than in ordinary cases. There is a marked lack of response to all drugs. A sufficient bleeding improves the responsiveness to drugs and diminishes the dose one-half. It is surprising how quickly and how long an ordinary dose of morphia will act after a sufficient phlebotomy. The nervous and vascular symptoms point to a spastic condition of the arterioles and capillaries, and bleeding relieves this, and the nerve centres become more responsive.

When and how much to bleed are important questions. The simpler cases will require no bleeding. I should bleed at once when the symptoms are violent—full bounding pulse, poor reaction after the convulsion, suppressed or scanty lochia, scanty urine, violent headache, rigid os, and especially if the convulsions antedate the full term of labor. A lack of responsiveness to drugs is a good indication for the lancet. If, after one bleeding, its beneficial effects die out, the pulse return to its former condition, the lochia and urine be diminished or suppressed, I bleed again, graduating the amount by the conditions of the case. If called in time and the premonitory symptoms portend trouble, I should unhesitatingly bleed as a prophylactic measure. Here, as everywhere in medicine, the physician's quick perception and good judgment must come into play.

There is an idea prevalent among medical men, and I have often heard it expressed, that morphia hypodermically is a dangerous drug in eclampsia, as it tends to diminish, if not suppress, the action of the kidneys. This has certainly not been my experience. If there is any action here, I should put it in the opposite direction. I believe morphia to be a most valuable drug here, supplementing chloroform, putting the nerve-centres in a splint till the storm blows over. A long, peaceful sleep from morphine always encourages me, and I feel justified

in buoying up the despondency of anxious relatives. The hypodermic method, further, is the ideal one, certainly, as to the exact amount of the drug given, rapidity of action, and absolute ease of administration when other avenues are cut off. I give it from one-quarter up to one grain.

Chloral, though a valuable drug, and in certain cases, perhaps, better indicated than morphine, must take a second place. If the history of the patient pointed to a marked aggravation from morphia, I should give chloral in preference, but even here I should be very sceptical. Morphine is as safe a remedy, and, moreover, you have it with you and can give it *instanter*, and save valuable time, while with chloral you must send out for it and valuable time is lost. Chloral by the rectum acts almost equally as well as by the stomach, and this is a fortunate thing in eclampsia, where the administration of drugs by the stomach is difficult, if not impossible. Where chloral is at hand and morphia not, I should give the former and not wait for the other drug. Time is so valuable in this disease that the sooner the nerve-centres are quieted the better.

I have never tried sufficiently the many other drugs which have been brought forward as valuable in eclampsia. The bromides never seemed to me quick enough to be of any value. Veratrum viride has some supporters, but it seems to me more dangerous than the above remedies and less certain in its action. Jaborandi and its alkaloid, pilocarpine, have been thoroughly tried and found wanting. I can see that belladonna, gelsemium, trinitrin, and nitrite of amyl may prove useful, but only in the milder cases. In the severe ones the system is not responsive sufficiently to allow them to act. A preliminary blood-letting may open the doors wider to them.

My idea of the treatment, then, may be summed up in a few words: Put the nerve-centres asleep as quickly and as safely as possible until the storm blows over, and deliver the patient as quickly as the obstetrical conditions will allow. Put the brain and spine asleep, and the sympathetic will be best able to work out its own salvation. With our present limited knowledge of the real pathology of eclampsia, and the drugs at our disposal, I can see no better way of helping the vital powers weather the storm.

Of my twenty cases seven were whites, with one death, and thirteen colored, with five deaths; of these one died in other hands six weeks after I delivered her, and the only case I lost after bleeding. This much greater mortality among the negroes but bears out my experience with them in a general way. They show a poor resistive power in all diseases, and succumb where the whites would pull through. Moreover, in these cases I was only called after the patient had had a number of convulsions and the disease had made considerable headway. With some the patient was virtually moribund when first seen. They are usually delivered by ignorant midwives who delay as long as possible before sending for a physician. Fifteen out of the twenty were primiparæ. In one colored case it was the seventeenth pregnancy; the patient recovered.

The one death among the seven whites occurred in a patient aged forty years, and in her twelfth pregnancy. The presentation was natural in all, and never offered any difficulty.

Of the white children I lost two, one dying on the third day. Of the thirteen colored cases I lost nine; eleven out of twenty children.

I found albuminuria more or less marked in all cases examined. In one case a trace of albumin lasted one year and then disappeared. The patient has since had two normal pregnancies and labors, and is strong and healthy. In most cases it is surprising how quickly the albumin disappears during convalescence.

Of complications, I had three lacerations of the perineum, requiring two perineorrhaphies. One colored case had intermittent fever and catalepsy; one, pneumonia; one, a good-sized uterine fibroid with marked jaundice; two had simple continued fever beginning before labor; and there was one case of puerperal mania, which passed into other hands and died six weeks after I delivered her.

I subjoin in a condensed form the salient points in these twenty cases.

Case I.—Mrs. S——, white, aged thirty, primipara. Eight convulsions before delivery and one after; anasarca and albuminuria; presentation L. O. I. Ant. First stage, eight hours: second stage, half an hour; third stage, a few minutes; a female child, dying on the third day; perineum lacerated. Treatment, chloroform and ether, forceps, and perineorrhaphy six weeks later.

This patient has since had three children without trouble.

Case II.—P. W——, mulattress, aged eighteen, primipara, unmarried; laced tightly to conceal her condition; taken in convulsions at 3 A.M. without premonitory symptoms, so far as the family noticed. First seen by me at 10 A.M., still in convulsions and wholly unconscious; stertorous breathing and large mucous râles; pulse, 160, and respirations, 44; drew off with a catheter highly albuminous urine; cervix dilated, vertex presenting; delivered by forceps, at 12.15 P.M., a large male child, dead; mother died at 3 P.M.

There was a delay of seven hours and the patient was moribund when first seen, and I had no opportunity of doing anything.

Case III.—Mrs. T——, white, aged eighteen, primipara. During the few days preceding labor had headache and a sensation of a cord drawing the head back; impaired vision; would start up in bed frightened; did not consult a physician. First convulsion at 3.30 A.M.; seen by me at 4 A.M. in the second convulsion; pulse, 160; axillary temperature normal; waters broken during first convulsion. While waiting for chloroform had her third convulsion. Under chloroform all the symptoms improved and she had no more convulsions; pulse dropped to 100, and respirations to 25; pains regular and strong.

At 8 A.M. applied forceps and delivered her in twenty minutes of a healthy female child; placenta delivered in twenty minutes; urine contained one-quarter albumin (by volume), specific gravity, 1.010; made a good recovery; urine showed a trace of albumin for one year; has since remained well and has had two normal confinements.

Here the chloroform and forceps thoroughly controlled the case.

Case IV.—P. T——, colored, aged thirty, V.-para, eighth month; when first seen was in convulsions and unconscious; cervix rigid and non-dilatable; gave chloroform and ether and applied Barnes's dilators; only after three hours could apply forceps; failing to deliver, turned and delivered by the breech a female child dead; mother never returned to consciousness and died half an hour later.

This patient had been in convulsions several hours before I saw her. Had I bled her I might have accomplished more.

Case V.—H. H——, colored, aged twenty, primipara; called at 4.30 A.M.; had had five convulsions since 10 P.M.; cervix dilated one inch, vertex presenting; gave morphia, one-third grain hypodermically; seen again at 9 A.M., two convulsions since last visit and was in convulsions when I arrived; gave ether, applied forceps at 9.05, and delivered a small female child in five minutes, asphyxiated with a knot in the cord; used artificial respiration fifty-seven minutes before the child breathed; child died next day; urine moderately albuminous, specific gravity, 1.014, loaded with phosphates and urates; no more convulsions, but the patient passed into a cataleptic trance; had malarial fever before and following labor; made a good recovery. This was a simple case, the pulse always good, and the convulsions not very severe.

CASE VI.—S. V——, colored, aged eighteen, primipara, eighth month, unmarried; first seen at 1 P.M., screaming with pain in the head, and maniacal; had had several convulsions; some anasarca; no record of urine; cervix only admitted index-finger. Chloroform and ether controlled the convulsions; under anæsthesia dilated cervix with the hand; applied forceps, vertex presenting, and delivered in thirty minutes a small female child, living; perineum ruptured three-fourths inch and immediately sewed up with silver wire. No convulsions after delivery and perineal tear united. Here the anæsthetic thoroughly controlled the case.

CASE VII.—M. S——, colored, aged twenty, primipara; headache, anasarca, and dim vision one month before labor. First convulsion at 5 A.M.; first seen at 10 A.M.; had had two convulsions; pulse 130 and weak; gave ether, ruptured membranes, and applied forceps, vertex presenting, at 10.20, and delivered in seven minutes a well nourished female child; used artificial respiration twenty-seven minutes; double episiotomy to prevent perineal tear. Only one slight convulsion following delivery. This was also a mild case and easily controlled.

CASE VIII.—R. W——, colored, aged eighteen, primipara. Found her in convulsions and unconscious; baby born four weeks and five days ago; had a hard labor but was up on the sixth day; then first noticed a swelling of the hands, face, and feet; felt very weak; before the convulsion complained of violent headache; face and body very much swollen; has had eight convulsions; urine shows a trace of albumin only; sp. gr., 1.014. Gave morphia one grain hypodermically. No more convulsions. On the day following was perfectly conscious, but has no recollection of the preceding day; tongue badly bitten; rapid convalescence.

This is a remarkable case, on account of the long interval following labor. The convulsions were typically eclampsic. Though rare, several similar cases have been published; the morphia immediately relieved.

CASE IX.—Mrs. D——, white, aged twenty-five, primipara; anasarca two weeks before delivery; when seen at 2 P.M. had had twelve convulsions in the last twenty-four hours (under the care of another physician); cervix low, os tense, dilated one-half inch; vertex presenting, L. O. I. Ant. Gave chloroform, dilated cervix with fingers, applied forceps, and delivered at 2.30 P.M. an illy-nourished female child, living; placenta delivered in five minutes. No more convulsions; gradual return to consciousness. A simple case, relieved promptly by chloroform and forceps.

CASE X.—H. B——, colored, aged fifteen, primipara, unmarried. Called to her at 9.10 A.M., in labor and in her fourth convulsion; vertex presenting, cervix well dilated; had complained bitterly of her head for four months; feet swollen a month, face swollen four days; no record of urine. Gave three-fourths grain morphine hypodermically; gave chloroform and delivered her in seven minutes of a living female child; did a double episiotomy to save the perineum; placenta delivered in nine minutes; one hard convulsion following labor; return to consciousness slow; still complained bitterly of pain in the head; pneumonia of right lower lobe developed on the second day. Made a good recovery.

CASE XI.—A. T——, colored, aged thirty-one, IV.-para; convulsions came on at 11 P.M. with complete unconsciousness; not seen till 7.30 the next morning, and still in convulsions; cervix dilated one inch, vertex presenting; morphia, three-fourths grain hypodermically, and ether; delivered with forceps a living eight months child in a few minutes; placenta soon followed; continued the ether; pulse, 160; had two hard convulsions following delivery, the last at 8.30 P.M.; pulse gradually declined; stopped ether at 11 P.M., the patient having been under its influence three and a half hours, though not a complete narcosis; but a slight return to consciousness. Fever came on toward evening, and she died in the early morning; infant died a few hours before. In this case valuable time, eight and a half hours, was lost before I saw the patient; there was no reaction from the remedies.

CASE XII.—E. S——, colored, aged eighteen, primipara; called at 3.30 P.M.; had been in labor sixteen hours and had had two convulsions. I found her in a convulsion and unconscious; cervix dilated two inches, vertex presenting; gave ether and delivered easily with forceps a male child, dead; no record of urine; gave tincture gelsemium in large doses, and finally one grain of morphia. Died the next morning.

My notes of this case are very imperfect; the patient never rallied after delivery.

CASE XIII.—S. P——, aged thirty-eight, XVII.-para; sent for me in the night, believing that labor had set in; had severe pains around the waist; cervix high up and almost out of reach; no dilatation; has a fibroid in anterior uterine wall, pressing at times on the bladder and causing temporary retention. Next day drew off with catheter a large quantity of deep-colored urine, specific gravity, 1.017, and loaded with albumin; gave morphia hypodermically with relief. At 7 A.M. next day was called to her in convulsions; gave one grain morphia hypodermically; passed finger through cervix and made out the position, O. I. L. Ant.; attempted forceps, but failed; turned and delivered by the breech with great difficulty; placenta delivered in two minutes. No more convulsions; remained in a stupor the entire day; remittent fever with jaundice followed; thoroughly convalescent by second week. The morphia, ether, and rapid delivery acted well.

CASE XIV.—Mrs. D——, white, aged forty, XII.-para; for some time before labor complained of great pains in the back and loins; called at 10 P.M.; waters broken at 9.30; pains very violent; vertex presenting, L. O. I. Ant.; cervix soft and dilated one and one-half inch; labor progressed rapidly, patient made no fuss; during the pains the face became very red and showed great effort; rapid respirations and a choking sensation; pulse excellent; head slightly delayed on pelvic floor; at one time she complained she could not see well; head born at 12 o'clock, body followed immediately, and placenta in four minutes; uterus on compression was very sensitive, and the patient, who had borne her labor heroically, complained bitterly of the after-pains; she mentioned having always a free flow, so I gave her two drachms of ergot. I left her feeling satisfied with her condition and suspecting nothing. From press of work did not see her next day before 12 M., when I found her in a most violent convulsion and unconscious, having had three before my arrival; pupils immovable and unequal; pulse, 68; temperature, by the axilla, 104½° F.; a quart of dark urine drawn off with catheter, specific gravity, 1.012, and one-third albumin; gave ol. crotonis, gtt. iij. in butter, one grain morphia hypodermically, and chloroform, without any effect. Died sixteen hours after the birth of the child.

I have given this case more in detail because I have always felt that I might have saved the case had I bled her. The symptoms pointed to great plethora, and a timely bleeding might have saved her. At that time I was still influenced by the idea that the flow following labor was depletive enough, and so relied on the morphine and chloroform, but neither of these drugs nor the croton oil had any effect. The case was evidently of the foudroyant type. It was the only white patient I lost.

CASE XV.—B. S——, mulattress, aged eighteen, primipara, had a convulsion at the birth of her dead child; seen by me at 12 M., some time afterward; she was semiconscious, pulse, 140; seen again at 1 P.M., when I bled her from the arm, eight ounces, with evident relief; at 2.30 P.M. still complained bitterly of her head, and was in a mild delirium; bled her eight ounces more, with marked benefit. Rapid convalescence under quinine, iron, arsenic, and strychnia.

This case was a simple one, but I saw the benefit from the bleeding; it took the place of an anodyne.

CASE XVI.—Mrs. L. W. H——, aged twenty-two, primipara; sent for me in the evening preceding her labor, complaining of violent headache; face and body swollen, and urine highly albuminous; ordered hot foot-baths, and gave antipyrin and tr. gelsemium; sent for at 8 A.M.; had had two convulsions in the night, and one very violent in the morning; semi-conscious, pulse weak and 120; complains still of violent headache; vertex presenting and cervix dilated one inch; gave chloroform at 9 A.M., dilated cervix with the hand and applied forceps at 9.50 A.M.; delivered a dead female child at 10.10 A.M.; placenta in eight minutes. No further convulsions, and rapid convalescence. The case was a mild one, but a timely bleeding might have prevented any convulsions.

CASE XVII.—Mrs. C——, white, aged twenty-five, primipara; has had various ills throughout her pregnancy, suffered from strangury and nausea; saw her a week before her confinement; great œdema of pudendum; urine one-fourth albumin, specific gravity, 1.010; punctured labia with a needle and squeezed out a good deal of water; gave a saline purge and one-tenth grain saccharated calomel every two hours. The next day at 5 A.M. her first pains came on; had a dazed feeling; got up to have an action and was taken in her first convulsion at 7 A.M. Saw her soon after; gave chloroform to complete narcosis; vertex presenting and low down; cervix well dilated; forceps applied at 7.30 A.M., and delivered at 8.07 A.M. a large male child, weighing nine and one-fourth pounds; slight perineal tear to left; placenta in five minutes; a second convulsion an hour later; bled her seven ounces of very dark blood; the lochia, which had ceased, returned again after the bleeding; the pulse very rapid, 140 to 160; another convulsion at 11 A.M., and another at 12 M; gave chloroform again and bled twelve ounces, which brought down the pulse to 140, and one-fourth grain of morphia subcutaneously. Again an improvement till 7 P.M., when she had another convulsion which left her in a profound stupor; I bled her twenty ounces and gave one-fourth grain morphia subcutaneously, bringing the pulse down again; at 8 P.M. the pulse was 160 again and I bled her six ounces; drew off a quart of urine with catheter; patient passed into a quiet sleep and awoke at 12 P.M., much better and more herself; gave morphia, one-fourth grain, hypodermically, and she slept till morning; mind much better; drew off a pint and a half of urine. From this time on gradually recovered; the pulse remained over 100 for a month or more; swelling and albumin rapidly disappeared. Will soon be confined again and is in good health. This was a very severe case, and showed, I think, the value of bleeding; the morphia acted better than the chloroform.

CASE XVIII.—Mrs. M. H——, white, aged thirty, primipara; deserted by her husband, and has been under great mental strain; sent for at 3 A.M.; waters had broken; vertex presenting, and low down; cervix high up and posterior; ether given toward end of labor; at 10 P.M., as the head was passing the perineum, had a hard convulsion, a small female child almost immediately delivered; placenta in six minutes; gave chloroform at once, and a chloral and bromide mixture—chloral, 45 grains; bromide, 1½ drachm, pro dosi.

At 11 P.M. another convulsion seemed imminent, and applied chloroform suddenly and the crisis passed over. At 12 M. had a second convulsion, and bled her immediately sixteen ounces, bringing down the pulse from 140 to 130, and diminishing its volume and tension; the lochia, which had ceased just before the convulsion, were re-established; now seemed for the first time to go under the influence of the chloral. At 12 P.M. had her third convulsion; bled her twelve ounces; the lochia, which had again stopped, were re-established; gave half a grain of morphia hypodermically; drew off thirty ounces of urine by catheter, high-colored and smoky; specific gravity, 1.030, one-half albumin. At 8.45 A.M. had her fourth convulsion, the severest of all; bled her for the third time sixteen ounces, making forty-five ounces withdrawn altogether. Awoke at midnight quite rational; no more convulsions, and made an uninterrupted recovery. This patient, strange to say, was a sister of the preceding one, taken sick in an adjoining room three months afterward. The benefit of the bleeding was quite apparent; the other remedies did not seem to act until it was done.

CASE XIX.—Called at 11.30 P.M. to a colored girl, aged eighteen, primipara, seventh month, in labor, who had been in convulsions since 12 M.; had had already twelve convulsions; unconscious; vertex low down; cervix barely admitting index-finger; bled her at once one quart and two ounces, and began dilating cervix with the hand; had a hard convulsion during the phlebotomy; sent for my forceps, and by 12.15 A.M. had cervix sufficiently dilated to apply them; delivered in five minutes, without difficulty and without any tear a seven months female child, dead; left patient at 12.30, comfortable; pulse soft, regular, and 130; ordered a teaspoonful of laudanum should she have another convulsion. Seen at 10 A.M. the next day; had had five or six convulsions since last visit; gave two-thirds of a grain of morphia under the skin; drew off four ounces of urine with catheter, very high-colored; specific gravity, 1.028, one-half albumin; no more convulsions; hysterical and maniacal symptoms developed, and, losing my temper with the family, I lost my patient and she passed into other hands. She died six weeks later. Notwithstanding the fact that there was an interval of six weeks between her delivery and death, and that while in other hands other factors may have caused the fatal result, I have placed the case among my fatal ones. Convulsions as early as the seventh month are very fatal. The case had been attended in the beginning by an ignorant midwife, as usual, and I saw the patient only after she had had a number of convulsions, and the disease had made headway. And then came the difficulty of having one's orders carried out by ignorant people demoralized by a maniacal and hysterical woman. The good effects of the bleeding were very evident to me at the time.

CASE XX.—A negress, aged nineteen, II.-para.; large and plethoric; baby born six days ago; labor natural; two weeks before confinement had a good deal of mental trouble; the day before the convulsions complained of great headache. In the morning, at 7.30, had her first convulsion; lochia entirely suppressed; 8 A.M. a second convulsion; 8.30 a third convulsion; 9 o'clock a fourth convulsion; at 10 o'clock a fifth convulsion; first seen by me at 11.30, in her sixth convulsion; pulse, 120, full and strong; bled her one quart of dark blood, and gave half a grain of morphia under the skin. At 12 o'clock her seventh convulsion; bled her a pint; at 1 o'clock her eighth convulsion, but slight; the lochia returned, and there were no more convulsions; at 5 P.M., pulse, 115; urine free, dark, clear; specific gravity, 1.018, one-quarter albumin. Rapid convalescence. The value of bleeding was very evident here. The suppression of the lochia before the convulsions and their return after the bleeding was very noticeable. I regard this symptom as a valuable one, and as a good indication for the lancet.

THE DETECTION OF THE BACILLUS TYPHOSUS IN WATER.[1]

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To detect the bacillus typhosus in water an early examination should be made. The bacillus typhosus is rarely found after two weeks from the date of infection.[2] The

[1] The experiments reported in this paper were performed in the bacteriological laboratory of the Yale Medical School.

[2] Karlinski emptied a considerable amount of a pure culture of the bacillus typhosus into a well in the yard of the Institute of Hygiene, at Munich, and was unable to detect the bacillus after two weeks (Centralblatt für Bakteriologie, Bd. vi., p. 671).

chief difficulty in detecting the bacillus in water has been due to the presence of a large number of rapidly growing water-bacteria, which liquefy the gelatine before the bacillus typhosus has time to develop. This difficulty has hitherto been met by dilution of the suspected water with sterilized water and an examination of a few drops of the mixture; by the use of some antiseptics which were thought to exert a greater restraining influence over the development of the water-bacteria than over that of the bacillus typhosus; and by the growth of the bacillus typhosus at a high temperature, since the growth of water bacteria is retarded by a temperature of 35° to 40° C., while the bacillus typhosus grows well within these limits.

Among the antiseptics employed are carbolic acid (2 per cent.) in gelatine, hydrochloric acid (.075 to 1 (per cent.), and boric acid (5 per cent.). These have all been used with varying, and usually doubtful, success.[1]

Rodet[2] has met with some success in destroying the water-bacteria by keeping bouillon which had been inoculated with the suspected water at a temperature of 40° to 45.5° C. for a few days, but admits that this method is not invariably successful.

Having had occasion to examine suspected water, I encountered so much difficulty in making a satisfactory examination that I have studied the methods of detecting the bacillus typhosus in water experimentally, first testing the growth of the bacillus typhosus and of some common water-bacteria, on various antiseptic jellies, at the temperature of the laboratory, and then on agar plates at a temperature of 35° to 40° C.

My method of testing the antiseptics consisted in making an antiseptic jelly of a desired strength, and from this jelly making plates. After the plates had hardened three stroke-inoculations were made in each plate. The stroke-inoculations were parallel with one another and about one inch apart. The middle stroke was an inoculation of the bacillus typhosus and on each side of it were stroke inoculations of two different water-bacteria. The advantages of this method are that all the bacteria are under exactly the same conditions, and it therefore readily permits us to compare side by side the rapidity of growth of the different bacteria. Furthermore, this method obviates the necessity of always making potato cultures of the colonies of the bacillus typhosus, to be sure that we are not dealing with some other bacteria resembling it.

The water-bacteria used as tests to compare with the bacillus typhosus were two kinds of green fluorescent liquefying bacteria which are very common in Connecticut water, and which grow so rapidly and liquefy the gelatine so soon that their presence is one of the chief obstacles to the detection of the bacillus typhosus in water.

In the first two experiments solutions of the antiseptics tested were made in water where this was possible, in other cases in alcohol or glycerine. It is quite possible that the amount of glycerine or alcohol present in these solutions may have influenced their antiseptic power. In all the other experiments the antiseptics which were insoluble in water were rubbed up with an equal part by weight of acacia, and water added to the desired strength, thus making an emulsion. When making small amounts of antiseptic jelly it is very difficult to attain absolute accuracy in strength, and this is not claimed for the jelly tested. The strength, however, was sufficiently accurate for the purpose in hand, as well as to show the relative value of the various antiseptics.

All of these antiseptics except β-naphthol and creolin formed a uniform antiseptic jelly, there being no appreciable precipitate or greater collection of the antiseptic in one part of the plate than in another. The alcoholic solution of β-naphthol formed a thick, white, tough precipitate when added to the nutrient gelatine, which was broken up with difficulty on shaking. This difficulty was obviated in the later experiments where an emulsion was used instead of an alcoholic solution. Creolin would not mix with the gelatine, but collected in globules over the surface of the plate. I do not regard the first and second experiments with these antiseptics of any value.

The experiments are tabulated below, and speak for themselves. While my conclusions are entirely negative regarding the use of these antiseptics for purposes of detecting the bacillus typhosus, the experiments may be of some interest as showing the effect of various antiseptics on the growth of the bacillus typhosus.

EXPERIMENT NUMBER I.

	B. Typhosus.	Water-bacteria, Number 1.	Water-bacteria, Number 2.	Solution.
Alcohol: 1 to 6..	No growth.	No growth.	No growth.	
Glycerine: 1 to 6.	Very slight growth.	Slight growth.	Slight growth.	
Potass. Arsenite:				
1 to 3,500.....	No growth.	Good growth.	Good growth.	
1 to 6,500.....	No growth.	Good growth.	Good growth.	
Acid, Carbolic:				
1 to 200.	Slight growth.	Slight growth.	Slight growth.	Glycerine solution.
1 to 100.....	No growth.	Very slight growth.	Very slight growth.	
Hydronaphthol:				
1 to 13,000. ..	Fair growth.	Good growth.	Good growth.	Water and alcoholic solution.
1 to 7,000.....	Fair growth.	Good growth.	Good growth.	
Creolin:				
1 to 200.....	Fair growth.	Good growth.	Good growth.	Glycerine solution.
1 to 100.....	Fair growth.	Good growth.	Good growth.	
β-Naphthol:				
1 to 580.....	No growth.	Fair growth.	Fair growth.	Alcoholic solution.
1 to 292.....	No growth.	Fair growth.	Fair growth.	
Acid, Benzoic:				
1 to 162.....	No growth.	No growth.	No gsowth.	Alcoholic solu tion.
1 to 88.....	No growth.	No growth.	No growth.	

EXPERIMENT NUMBER II.

	B. Typhosus.	Water-bacteria, Number 1.	Water-bacteria, Number 2.	Solution.
Olive oil: 1 to 13.	Fair growth.	Good growth.	Good growth.	
Alcohol:				
1 to 13..... .	Fair growth after 8 days.	Slight growth.	Slight growth.	
1 to 25.....	Good growth.	Fair growth.	Fair growth.	
Thymol:				
1 to 6,500.....	Very slight growth.	Good growth.	Good growth.	Alcoholic solution.
1 to 3,500.....	No growth.	Fair growth.	Fair growth.	
Acid, Salicylic:				
1 to 260... ...	Fair growth.	Fair growth.	Fair growth.	Alcoholic solution.
1 to 140.....	Very slight growth.	Very slight growth.	Very slight growth.	
Chloral:				
1 to 81.....	Very slight growth.	Fair growth.	Fair growth.	
1 to 44.....	Very slight growth.	Fair growth.	Fair growth.	
Hydrogen Peroxide:				
1 to 13.....	Fair growth.	Fair growth.	Fair growth.	*Old* preparation.
1 to 7.....	Slight growth.	Slight growth.	Slight growth.	
Camphor:				
1 to 216.....	Very slight growth.	Slight growth.	Slight growth.	Alcoholic solution.
1 to 116.....	No growth.	Slight growth.	Slight growth.	

EXPERIMENT NUMBER III.

	B. Typhosus.	Water bacteria, Number 1.	Water-bacteria, Number 2.
Quinine Sulph.:			
1 to 130.....	Doubtful.	Very rapid growth.	Very rapid growth.
1 to 70.....	Doubtful.	Very rapid growth.	Very rapid growth.
β-Naphthol:			
1 to 325.....	No growth.	No growth.	No growth.
1 to 175.....	No growth.	No growth.	No growth.
Hydronaphthol:			
1 to 2,600.....	No growth.	Good growth.	Good growth.
1 to 1,400.....	No growth.	Good growth.	Good growth.
Magnesia Sulph.:			
1 to 35.....	.....	Good growth.	Good growth.
Acacia:			
1 to 35.....	Fair growth.	Good growth.	Good growth.

[1] For experiments with these antiseptics see Chautemess and Vidal (Baumgarten's Jahresbericht, 1887, p. 151); Kitasato (Zeitschrift für Hygiene, Bd. iii., p. 404); Heim (Arbeiten aus dem Kaiserlichen Gesundheitsamte, Bd. v., p 303); Bartoschewitsch (Centralblatt für Bakteriologie, Bd. vi., p. 466); Thornot and Soir (Baumgarten's Jahresbericht, 1887, p. 149).

[2] Centralblatt für Bakteriologie, August, 1890, p. 215.

EXPERIMENT NUMBER IV.

	B. Typhosus.	Water-bacteria, Number 1.	Water-bacteria, Number 2.
Acid, Benzoic:			
1 to 650	Fair growth.	Good growth.	Good growth.
1 to 350	No growth.	No growth.	No growth.
Sodium Fluo-silicate:			
1 to 130	No growth.	No growth.	No growth.
1 to 70	No growth.	No growth.	No growth.
Thymol:			
1 to 2,600	Very slight growth.	No growth.	Slight growth.
1 to 1,400	No growth.	No growth.	No growth.
Potass. Arsenite:			
1 to 1,400	No growth.	No growth.	No growth.

EXPERIMENT NUMBER V.

	B. Typhosus.	Water-bacteria, Number 1.	Water-bacteria, Number 2.	
Acid, Boric:				
1 to 130	Very slight growth.	Very slight growth.	No growth.	
1 to 70	No growth.	No growth.	No growth.	
β-Naphthol:				
1 to 1,500	No growth.	No growth.	No growth.	
1 to 600	No growth.	No growth.	No growth.	
Hydronaphthol:				
1 to 325	No growth.	No growth.	No growth.	
1 to 175	No growth.	No growth.	No growth.	
Acid, Salicylic:				
1 to 325	No growth.	Very slight growth.	No growth.	
1 to 175	No growth.	No growth.	No growth.	
Antipyrin:				
1 to 130	Very slight growth.	Good growth.	Good growth.	
1 to 70	Very slight growth.	Good growth.	Fair growth.	
Sodium Fluo-silicate:				
1 to 600	Fair growth.	Slight growth.	Slight growth.	
1 to 300	No growth.	No growth.	No growth.	
Acid, Lactic:				
1 to 12	Fair growth.	Fair growth.	Fair growth.	
1 to 6	No growth.	No growth.	No growth.	
Hydrogen Peroxide:				
1 to 12	No growth.	Slight growth.	Slight growth.	*Fresh* preparation.
1 to 6	No growth.	No growth.	No growth.	

EXPERIMENT NUMBER VI.

	B. Typhosus.	Water-bacteria, Number 1.	Water-bacteria, Number 2.
Nickel, Ammon. Sulph.:			
1 to 130	No growth.	No growth.	No growth.
1 to 70	No growth.	No growth.	No growth.
Cobalt, Ammon. Sulph.:			
1 to 130	No growth.	No growth.	No growth.
1 to 70	No growth.	No growth.	No growth.

It is evident from these experiments that the only antiseptics offering any advantage in favor of the bacillus typhosus are alcohol and sodium fluosilicate. I have repeatedly tested a gelatine made by adding half a cubic centimetre of alcohol to six cubic centimetres of gelatine, and find that the retardation of the growth of the water-bacteria is somewhat greater than that of the bacillus typhosus. The growth of both is delayed considerably, neither appearing much before eight days. The same may be said of a sodium fluosilicate jelly (1 to 600–1,000). After several experiments with the use of these two antiseptics in attempting to detect the bacillus typhosus in water which had previously been infected with it, I have found them of no practical value.

The examination of water for the bacillus typhosus by means of agar plates, kept at a temperature of 40° C. I have found of much greater value than the use of antiseptics. This method depends on a temperature of 40° C. to suppress the growth of water-bacteria and therefore is really a modification of Rodet's method, but was first described by Hazen and White.[1]

To test the value of this method I have performed three experiments. The first experiment consisted in making agar plates in Petri glass dishes and after they had hardened making stroke-inoculations in them of five different water-bacteria and of the bacillus typhosus. The plates were then kept in an incubator at the temperature of 36° C. and at the end of two days the following note was made:

Bacillus typhosus.....Rapid growth.
Water-bacteria No. 1.....Very slight growth.
Water-bacteria No. 2.....Fair growth.
Water-bacteria No. 3.....Fair growth.
Water-bacteria No. 4.....Slight growth.
Water-bacteria No. 5.....Very slight growth.

The advantage of the method was here very evident. The colonies of the bacillus typhosus were much larger and more vigorous than those of any of the water-bacteria.

The second experiment with the agar plates was very similar to the first, except that check-plates of agar were made which were kept at the temperature of the laboratory (70° F.), while corresponding plates were kept in the incubator at a temperature of 40° C. After two days the following result was obtained:

	Temp. of Room (21° C.).	Temp. of Incubator (40° C.).
Bacillus-typhosus	Fair growth.	Good growth.
Water-bacteria, No. 1	Good growth.	No growth.
Water-bacteria, No 2	Good growth.	Very slight growth.
Water-bacteria, No. 3	Good growth.	No growth.
Water-bacteria, No. 4	Good growth.	Very slight growth.
Water-bacteria, No. 5	Good growth.	No growth.

This confirms the result obtained in the first experiment.

A final practical test experiment was then made in the following way: Two sterilized pint flasks were filled with unsterilized tap-water. One of these flasks was inoculated with a pure culture of the bacillus typhosus (as much as could be held on a small platinum wire loop). Two plates of agar (numbered I. and II.) were then made, each containing one cubic centimetre of the water infected with the bacillus typhosus. Two plates of agar (numbered III. and IV.) were made in the same way but were inoculated with one cubic centimetre of the tap-water which had not been infected with the bacillus typhosus. All of these plates were then put in the incubator and kept at a temperature of 40° C.

Duplicate plates to each of the above were then made of gelatine, which I have numbered I.a, II.a, III.a, IV.a. These plates were kept at the temperature of the laboratory (70° F.=21° C.).

After two days many liquid colonies were developing in all the gelatine plates, but there was none resembling the bacillus typhosus. In the agar plates the case was quite different. In Plates I. and II. there were many transparent solid colonies about the size of a pin-head, which by growing on gelatine and potato proved to be colonies of the bacillus typhosus. In Plates III. and IV. no colonies at all had developed at the end of two days.

These experiments seem to me quite conclusive and have convinced me of the great value of this method. There is one caution mentioned by Hazen and White which I have found needs to be observed, and that is that care should be taken not to mix the suspected water with the agar until the latter is quite cool, and moreover to mingle and pour out on a cold plate quickly so as to allow only the shortest possible exposure of the bacillus to the heat of the agar.

One other addition to this method has been proposed to increase still further its value. This is the addition of twenty drops of a saturated watery solution of fuchsin to each plate of agar. It has been stated that the typhoid colonies decolorize the agar in their immediate neighborhood while the colonies of other bacteria do not do this.[1] I have performed several experiments to determine the value of this decolorization for detecting the bacillus typhosus and have found it has no advantage over the plain agar. It is true that there often is a slight decolorization of the agar around the typhoid colonies, but it is frequently scarcely appreciable.

[1] Boston Medical and Surgical Journal, April 23, 1891, p. 407.

[1] Gasser: Centralblatt für Bakteriologie, Bd. viii., p. 411.

The value of the application of the method of agar plates to the detection of the bacillus typhosus in other matter than water is not so great. There are several bacteria commonly found in milk which grow at a temperature of 40° C. on agar. As a rule, however, these colonies can be distinguished from those of the bacillus typhosus by their more rapid growth, greater opacity, and more sharply defined outline. The growth of these bacteria on gelatine and potato is very different from the growth of the bacillus typhosus, some of them liquefying gelatine.

Clinical Department.

MATERNAL IMPRESSIONS.

By H. B. LEE, M.D.,

SUMMERVILLE, S. C.

DR. MASON'S case in a recent issue of the MEDICAL RECORD is so convincing that it hardly needs corroboration, but the following cases will strengthen his position.

CASE I.—Molly (colored), five months pregnant, while eating her dinner under a hedge, was terrified by a large rattlesnake falling into her lap. The snake struck at her but only buried its fangs in her apron. The child was born and is now living, aged forty years. Is a drivelling idiot, with only the lowest animal capacities. Its lower limbs are so twisted that it has to be dressed in woman's clothing, as no pair of pants could be made to fit it. Like most negroes, Molly has had a large family, most of whom are now living and are magnificent specimens of men and women.

CASE II.—Mrs. Mc——, an Irish woman, living in Atlanta, Ga, when four months pregnant was frightened by a fight between her husband and another man in the next room; she ran in just as the husband received a slap from his antagonist on the side of the neck and face, with a bloody hand, leaving the print of the four bloody fingers on his cheek and neck. Believing his throat cut she fainted. When her child was born it had the distinct mark of four bloody fingers on its neck and face. The child was living up to five years ago, when I lost sight of the family.

CASE III.—A French lady living in Charleston, S. C., and pregnant for the first time (I do not know how far gone), came into the piazza of her home to look at some green turtles a fisherman had brought for sale. She had on a little pair of bronzed slippers and touched one of the turtles with her foot, when the animal snapped at her and caught the toe of her slipper, pulling it off, and giving her a considerable fright. When the child was born it was exactly like a turtle in shape, head, body, and limbs. This monstrosity only lived a few days. The parents positively refused to allow the attending physician to preserve it. The first two cases I saw and examined, the last I was told of by a perfectly reliable physician. These facts are not merely medical curiosities, but are of vital importance to us as physicians, and I for one never fail to warn my pregnant patients to be careful what they look at. Jacob's rods were not miraculous but an application of a natural law.

HYPEREMESIS DUE TO COMPOUND HYPERMETROPIC ASTIGMATISM (EYE-STRAIN), OR TO REFLEX NEUROSES FROM THE MALE GENITAL ORGANS.

By LIEUTENANT A. E. BRADLEY,

MEDICAL DEPARTMENT, U.S.A.

(Published by authority of the Surgeon-General.)

MR. A. B——, General Service Clerk, U. S. Army, was formerly a hospital steward, U. S. Army, and personally known to the writer since November, 1889. While a steward his work was such as not to demand constant application of his eyes, though he suffered at times with neuralgic (then called) headaches after too close application for even a short time.

He served with his command in the field during the Indian troubles of 1890 and 1891, and on the cessation of hostilities was discharged as a steward and appointed to the position he now occupies. His new duties kept him at his desk from nine to twelve and from one to four, and almost immediately he began to suffer with headache and impaired health. He did not at once apply for medical advice, and was not seen by the writer professionally until April 1, 1891, at which time he was treated for supra orbital neuralgia. A rest of three or four days made him again in fairly comfortable condition. On resuming his work, however, he soon began to notice a constant nausea, and this was soon followed by the vomiting of nearly all food taken, while headache became a constant symptom. An effort was made to relieve the nausea and vomiting by different remedies—tincture of nux vomica, cocaine, oxalate of cerium, Fowler's solution, etc., but without success. The tongue was clean, the appetite good; the vomiting was accomplished with little effort and resembled in nearly every respect the vomiting of pregnancy. In fact, had he been of the opposite sex one would have hardly hesitated to pronounce pregnancy the cause of the constant emesis. All medication failing, and having in the meantime become convinced that the eyes were at fault, it was decided to paralyze the accommodation and see what refractive errors existed. It should here be stated that in childhood a convergent strabismus had existed, but disappeared as maturity came on. Atropine was used, and on refracting for glasses, compound hypermetropic astigmatism of both eyes was found to exist as follows: V., R. E. $\frac{20}{60}$, L. E. $\frac{20}{60}$; V., R. E. + 1 + .50 ax. 90° = $\frac{20}{20}$; V., L. E. + 1.25 + .25 ax. 90° = $\frac{20}{20}$. Glasses were ordered accordingly on April 22, 1891. The nausea and vomiting continued unabated and the patient rapidly lost flesh, so that at this time he weighed only 130 pounds, in contrast to his usual weight, 145 or 150 pounds. All the usual remedies having been used without the least benefit, complete rest of the stomach was obtained by rectal alimentation, using predigested milk, and for ten days no food was allowed except that taken by the rectum. The nausea, however, still remained to some extent, and he was at this time, about May 1st, advised to take a short leave. He went away, and on returning was much better; had commenced taking food by the mouth, and though there was more or less nausea, vomiting did not now occur. While away he gained fifteen pounds in weight. He resumed work on May 11th, having gone on sick report April 17, 1891. His headaches have been entirely cured, and the glasses ordered have proved eminently satisfactory. His weight is now 158 pounds. Nausea continued until early in June, and then ceased.

While studying this case my attention was attracted to a short paragraph of the MEDICAL RECORD, April 25, 1891, p. 484. It is not thought that the report of this case would be complete without referring to the following points. The patient was engaged to be married to a young woman, and lived with her parents prior to his marriage. The date of the wedding was June 1st. It will be noticed that very soon after their marriage all symptoms which had been so troublesome disappeared; that marked benefit resulted from a short absence, and that some symptoms returned when he came back. Inquiry, as was surmised, brings out that while attentive to his affianced and in her presence, he, being of a passionate nature, labored under much sexual excitement, and had prolonged erections, in other words, coitus reservatus. After marriage, and being thus able to gratify his desires to their fullest extent, his nausea entirely disappeared. He admits that he began to improve immediately afterward, and in a few days was entirely well and has so remained. The paragraph alluded to is the following:

"*Relation of Stomach Disorders to Affections of the Male Genital Organs.*—Professor Peyer claims to have

demonstrated reflex neuroses of this kind in over three hundred cases. He points out the close, and frequently observed, connection between diseases of the female generative organs and the stomach, and claims that a similar relation is to be observed in the male. The principal cause of these neuroses he finds in onanism, abusus sexualis, and coitus reservatus. The symptoms relating to the stomach are atony, gastroplegia, nervous vomiting, eructations, cramps, and the secondary disturbances of these conditions. The diagnosis is oftentimes difficult, but may be made by the presence of products of chronic urethritis in the spermatic urine. Therapy is to be especially directed to relieving the local sexual disorders, and the condition of the nervous symptom.—*Volkmann's Sammlung klinischer Vortrage.*"

The writer regrets that the original article is not at his disposal. After a careful study of this case he admits that to him doubt still exists as to the cause of the hyperemesis. Was it eye-strain, or was it reflex vomiting due to the coitus reservatus, and the impression made by this condition on the nervous system? He is inclined, however, to the belief that this case was one due to the genital reflex neurosis more than to the eye-strain, the latter being merely incidental. It may be that each played an important factor, and that the hyperemesis would not have developed from either condition independently.

TURPENTINE IN POST-PARTUM HEMORRHAGE.

By B. J. WETHERBY, M.D.,

ARLINGTON, KAN.

In the MEDICAL RECORD of June 20, 1891, Dr. Alvah Newman has an article on post-partum hemorrhage, which I read with a good deal of interest, on account of having had recently two very severe cases. Among his remedies and procedures given for the control of the bleeding, I do not find turpentine, which I have come to look upon as a certain, speedy, and harmless remedy in this very trying class of cases. My method of using it is explained in the following report of the two cases mentioned above.

CASE I.—Mrs. S——, aged forty-four, mother of eighteen children, one pair of twins. Large, fleshy woman, strong as a man. No trouble in previous confinements, having never called a doctor in any of them. Her eighteenth labor occurred at full term and again no doctor was called. About an hour after the completion of the second stage severe flooding began, and a messenger was immediately despatched for a doctor. Being ten miles out of town, about two hours elapsed before I reached the bedside. I found her cold, pulseless, and speechless, lying in a bed literally soaked in blood. On making an examination I found a large, flabby uterus and a tightly adherent placenta, which I removed with great difficulty. I then saturated my handkerchief with spirits of turpentine, and swabbed out the uterus, which immediately responded to the stimulus, and contracted so vigorously as to squeeze out my hand. Not another drop of blood was lost, but the patient did not rally and in a few minutes expired, completely exsanguinated.

CASE II.—Mrs. H——, primipara, aged eighteen. Pale, anæmic woman, weighing about one hundred pounds. Labor was long and severe. She began flooding a few minutes after the child was born. The after-birth was delivered by Credé's method. The flooding became more profuse after the delivery of the placenta. I gave a hypodermic of 20 minims ergotole, followed by a drachm of fluid extract ergot by the mouth, vigorously kneaded the abdomen, and applied cold cloths over the uterus and thighs, without diminishing the hemorrhage. As the patient was rapidly sinking I hurriedly soaked my handkerchief with the turpentine and mopped out the womb, when it instantly contracted so vigorously as to squeeze out both my hand and the handkerchief, and there was no more bleeding. The slight smarting caused by the turpentine seemed to revive the patient, who shivered slightly, opened her eyes, and asked: "Doctor, what's that?" The only real discomfort she complained of was a slight smarting of the perineum and anus, caused by the excess of turpentine running over the parts—for I did not take time to measure the amount on my handkerchief. She made an excellent recovery.

I would not advise using a handkerchief if a piece of clean linen is at hand; but as time is precious, and turpentine is an excellent antiseptic, no sepsis need be feared.

A CASE OF SPONTANEOUS EXPULSION OF A LARGE URINARY CALCULUS.

By HENRY F. LEONARD, M.D.,

BOSTON, MASS.

THE patient, an American woman, aged sixty, has been confined to bed for ten years, suffering from paraplegia. During this time she has been attended by several physicians, each making a different diagnosis of her serious difficulty. The writer was called one midnight to find her suffering intensely from pain through the lower part of the abdomen and about the urinary bladder. There was constant dribbling of urine, this having been the case for the past two years, with soreness about the external genitals. Pulse, 150; temperature, 104° F.

Suppositories of morphine and belladonna were given for the local discomfort. Phenacetin for the rise of temperature.

The following morning she was more comfortable, having slept fairly well during the latter part of the night. She raised most decided objections to having a local examination. Said she was too sore to even think of it. The following day the bowels were moved by enema of warm water and oil. The temperature gradually became normal, and the acute pain left her, though some soreness and discomfort remained.

Two days after my first visit, the patient, thinking she was about to have a motion from the bowels, asked to be put on the bed-pan. After straining a little, something appeared within the vagina. This she removed with her fingers. It was a cystic calculus nearly as large as a hen's egg, its weight ten drachms, diameter two and one-fourth inches longitudinally and one and three-eighths inch laterally. The surface was comparatively smooth. On longitudinal section the outer layer was seen to be composed of uric acid, internal to this was a layer of lime oxalate, the nucleus being composed of uric acid, epithelial cells, pus, and granular matter.

It will be seen this was an alternating calculus, having for its nucleus a soft, offensive-smelling mass, around this an irregular deposit of lime oxalate, in other words a mulberry calculus, and outside this concentric rings of uric acid.

For several days after passing this stone the patient seemed to feel little or no relief; still complained of much soreness and discomfort.

There was a constant discharge of offensive, ammoniacal urine, keeping the bed wet, the patient uncomfortable, and making her a burden to herself and attendants. She could not say there was more urine dribbling away after the stone came away than there had been at any time for two years.

For several days she objected to having an examination, saying she lacked courage and was too sore; however, in a week or ten days one was made.

The external parts were somewhat swollen and inflamed, over the nates were a dozen or more small eroded spots.

A finger in the vagina detected nothing abnormal about the uterus or rectum. Anteriorly it passed into an opening, thence through a short canal, that felt as if lined with particles of sand, and into the bladder, which also

felt gritty. Upon withdrawing the finger a gush of milky fluid followed.

The bladder was washed out with a weak solution of potass permanganate. This was repeated every other day for several weeks.

After two or three washings there were no particles of grit, no discomfort during the operation, and a feeling of relief afterward.

Gradually the soreness left, so it was possible to make a careful, thorough examination, revealing a large fistulous opening into the urethra from the vagina. Through this the calculus undoubtedly found its way, coming from the bladder.

It moved along the urethra a short distance, thence through the vaginal anterior wall, into the vagina and to the outer world.

Since the calculus was passed the patient has become less nervous, sleeps well at night, eats almost anything her appetite demands, and has gained in flesh, strength, and appearance.

DENTISTRY AND SYPHILIS.

By G. G. FAUGHT, M.D.,

PHILADELPHIA, PA.

An editorial in the MEDICAL RECORD, entitled as above, suggests the publication of this article. The case here given, while unique in its character, is perhaps so only by reason of the circumstances that favored my discovery of the guilty party.

A brunette, aged nineteen, after an indefinite illness of some weeks, under the care of several physicians, without improvement, presented herself to me with the following history and symptoms: Until recently, she has enjoyed good health except for occasional attacks of indigestion, accompanied by small ulcers in the mouth. About two months ago she commenced failing in health and has continuously lost flesh, until she is now ten pounds under weight. The commencement of the attack is indefinite in character. She had occasional chills and was febrile; complained mostly of malaise, loss of appetite, and insomnia. Her physician diagnosed "malaria." Several weeks previous to this time she had had some dental work done which left the gums sore; they healed slowly, and with the commencement of the sickness the gum around the right upper canine became markedly inflamed and ulcerated. After several weeks, despite treatment, and a change of physicians, her condition was unimproved. An eruption now appeared over the chest and arms. (This was diagnosed as measles.) Ulcerations appeared on the hard palate, she also had nocturnal neuralgic pains in the temples. On examination, I found a superficial red ulcer around the right upper canine; several small grayish ulcerations on the roof of the mouth; a diffuse red pharynx with large tonsils; enlargements of the post-cervical glands, and of those at the angle of the jaw on the right side. Eruption still present on the chest and arms, having the characteristics of syphilitic roseola.

My diagnosis was syphilis, and this was confirmed by Dr. John B. Dearer, who saw the case at my request. I could not at this time believe that it was other than a case of dental inoculation, but questioned the advisability of informing the woman of the true nature of her disease. While thus delaying, a gentleman called upon me to inquire as to her progress; from the interest he manifested in her welfare, and knowing him to be one of my syphilitic patients with mouth lesions, I boldly accused him of having kissed her, which was reluctantly admitted. Their intimate relations began about the time of the dental manipulations. Here was the true key of the situation and the undoubted source of inoculation, revealed by an accident. Had anyone of her former medical advisers diagnosed the case, the dentist would have been blamed for her condition. It is interesting to note in this connection that Otis claims he has never known syphilitic inoculation to follow the kiss of affection. The man in this case denies that his was other than such a kiss, and the character and social position of the woman would incline one to believe the statement.

ŒSOPHAGOTOMY FOR THE REMOVAL OF A SILVER DOLLAR.

By J. T. FREELAND, M.D.,

BEDFORD, IND.

ŒSOPHAGOTOMY for the removal of foreign bodies appears to have been performed, according to Fischer, eighty times, the mortality being twenty per cent.

From these statistics it is to be seen that the operation is comparatively a rare one, not because it is so difficult but because it is seldom that foreign bodies become impacted in this situation. A case recently occurred in my practice of which the following is a brief report.

A young man, aged twenty-one, while carrying a dollar in his mouth and scuffling with some companions, accidentally let it slip down into his œsophagus, where it lodged at a point about an inch above the sterno clavicular articulation. I saw him about two hours after the accident, at which time he was in the hands of Dr. E. E. Mitchell who had made unsuccessful attempts at removing the coin by inverting him.

He was in intense pain and making constant and violent efforts at vomiting. I could not reach the coin with forceps and also failed to remove it with an improvised coin-catcher. As the man lived five miles in the country and we had no instruments with us with which to operate, the patient was put under the influence of morphine and the operation was deferred until the next day. Then, with the assistance of Drs. E. E. Mitchell and R. B. Short, the operation was performed.

The patient was anæsthetized, the head drawn back and to the right, making tense the muscles and fascia on the left side of the neck, and an incision made along the anterior border of the sterno-cleido-mastoid muscle three inches in length, the tissues were carefully divided with the blade and handle of the scalpel until the blood-vessels came in view. These were drawn to one side and the trachea to the other and the incision continued until the coin could be felt by the finger through the wall of the œsophagus which bulged into the wound. An incision was made down on the edge of the dollar and as soon as it could be seen it was grasped with a pair of forceps and the opening was enlarged until the coin could be drawn out. The only hemorrhage was from a small artery near the œsophagus, which was secured without difficulty. No sutures were taken in the œsophagus and the wound was packed with iodoform gauze which was afterward changed daily. As soon as the patient could speak it was evident from the tone of his voice that the recurrent laryngeal nerve had been divided.

The patient was supported by nutritive enemata for ten days. In dressing the wound, paroxysms of coughing would be excited, at which times air escaped freely. On the ninth day his bowels refused to retain the injected fluid and his temperature dropped to 97° F. A stomach-tube was introduced through the mouth, when such violent efforts at vomiting were excited that it had to be removed. He was allowed to rest a few minutes preparatory to introducing a tube through the œsophageal wound. While lying on his right side with the wound up it occurred to me that probably he could swallow in this position. I placed the end of the stomach-tube in a cup of water and told him to suck the water through it and found to my satisfaction that he could swallow without difficulty. I am led to think that after an operation of this kind the patient can be fed from the time of the operation by placing him in a position so that the fluid will gravitate to the side of the œsophagus opposite to the incision. The patient rapidly improved and on the fifteenth day he could swallow liquid while in an upright position. A few days afterward he could eat some solid food and on the twenty-fifth he returned to his ordinary diet.

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THE LOSS OF OLD AGE.

THE type of essay *De Senectute*, of which Cicero gave us the model, is not much affected now. Perhaps the Roman orator exhausted the sentimental and philosophic side of the subject. At any rate the view of old age which most interests moderns is not how to enjoy it but how to get and prolong it. Perhaps this is really the essential thing, since it appears as if, despite sanitation and all our modern improvements in living, old age is gradually slipping away from us.

It is true that we have immensely lessened infant mortality and extended the mean duration of life to over forty-five years. But the average number of old people is not correspondingly increased, and it is even charged that when great old age is now reached it is abnormal and the evidence of a deep-seated neurosis whose penalties are visited on succeeding generations.

The foregoing statements are not vague generalizations, but based upon carefully collected vital statistics. Sir James Crichton Brown, in a recent address on old age, states that since 1859, in Great Britain, the decline in the death-rate has been 17.5 per cent. at all ages under fifty-five, and only 2.7 at all ages above fifty-five. Between the years sixty-five and seventy-five there has actually been an increase in the death-rate.

The causes of this increment in later death-rates is attributed to cancer, heart diseases, nervous diseases, and kidney diseases.

These diseases are mainly of the degenerative class, and due to the wear and tear of modern life. This is shown by the fact that the death-rates after forty-five are less among women and less in the country than in the city.

Dr. Brown gives us the further discomforting reflection that men and women are growing old before their time. "Old age," he says, "is encroaching on the strength of manhood, and the infirmities associated with it are stealthily taking possession of the system some years earlier than they were wont to do in former generations. Deaths due simply to old age are now reported between forty-five and fifty-five years of age, and in large numbers between fifty-five and sixty, and there has been a reduction in the age at which atrophy and debility—another name for second childishness—kill those who have passed middle life. Presbyopia, or the long-sightedness of old age, in which near objects cannot be distinctly seen unless held at a considerable distance from the eye, is believed by some experienced ophthalmologists to begin, as a rule, rather earlier than it used to do. No trustworthy statistics on the subject exist, and of course general impressions ought to be received with caution, for it must be difficult to distinguish how far the early recognition of ocular failure in these days is attributable to the increased care bestowed on the eye, and how far it should be ascribed to untimely invasion, but I certainly attach great weight to the opinion of Mr. Critchett, who says, 'My own experience, now extending over a quarter of a century, leads me to think that both men and women now seek aid from glasses at an earlier period of life than their ancestors.' Very significant also is the statement of Mr. Brailey that 'people who have lived long in hot climates like India become presbyopic four or five years earlier than they would otherwise have done,' for life in a hot climate really means excessive wear and tear to a European. The ordinary age for the adoption of spectacles for reading used to be fifty; it is now, I believe, nearer forty-five."

The teeth are dropping out earlier, baldness is more prevalent, senile insanity is more common, and appears sooner than it used to do; suicide is increasing, and most suicides occur between the age of forty-five and sixty-five.

This is rather a doleful outlook, and one naturally seeks to know if Dr. Brown has a remedy for the ills he portrays. "There is," he tells us, "no short cut to longevity. To win it is the work of a lifetime, and the promotion of it is a branch of public medicine. Perchance one of these days we may have an International Congress on Old Age, with an exhibition of dotards for warning, and of hale and hearty centenarians for encouragement. At any rate you may rest assured that it is by steady obedience to the laws of health that old age may be attained, and by judicious regimen that it may be prolonged."

This is all very true, but, unhappily, it has been well known since the days of Hufeland. Perhaps the best and only thing that we can do is to teach children more earnestly the fact that to enjoy the last half of life they must take care of the first half. The maxim, "*Dum vivimus, vivamus*," is the one which above all makes old age a sickly and unhappy one.

A NEW SCHEME FOR A FOUR-YEARS' COURSE.

VARIOUS methods have been tried in order to persuade medical students to take a fourth year's course of study. The favorite one has been to offer a degree *cum laude*. None of these efforts have been very successful, however, except in throwing a little halo of factitious goodness and unobtrusive advertisement around the colleges. Medical students will never spend four years in getting a degree which can be obtained in three, unless it is obligatory, or there is manifest and material advantage to be gained.

The College of Physicians and Surgeons of Chicago proposes to graft on a fourth year to its course in a somewhat novel way. This consists of a year spent with a regular and approved medical preceptor. The regulations prescribed are as follows:

1. Non-residents may matriculate to take the first

year's course in the same manner and under the same conditions as if they proposed to take a resident course.

2. Non resident students will be required to select a preceptor satisfactory to the Secretary, and one who is willing to co-operate with the faculty in conducting the year's work, and give his certificate for the same at the end of the year.

3. Non-resident students must do the prescribed work and must make satisfactory weekly reports of progress in the manner provided by the faculty.

4. The course covers thirty weeks, and not more than five weekly reports may prove unsatisfactory without debarring the student from the credit of the course.

5. When a student can furnish evidence of having already taken the work in the prescribed non-resident course, he will be assigned an equivalent from a special course.

6. Students who have taken the non-resident course in a satisfactory manner, and have shown by the weekly examinations that they have done the work thoroughly and intelligently, will receive certificates from the Secretary, which, with the certificate of their preceptor, will be taken at this college in lieu of one year's study on a four-years' course.

The above plan will, we believe, strike everyone as being ingenious and wise. It restores, in a certain way, the old system of apprenticeship; but it has only the good features of that system, for the pupil is studying clinical medicine at a time when he is prepared to appreciate and obliged to utilize its advantages; while the preceptor is made more responsible by the consciousness that his pupil pays him and must be taught, or he will reflect discredit upon his instructions.

We shall watch the outcome of this new scheme with much interest, and hope it will prove practicable.

SWEET-OIL IN THE TREATMENT OF BILIARY COLIC.

Dr. Thomas J. Mays and Dr. Bloom, of Philadelphia, recently read a paper on "Olive-oil in the Treatment of Gall-stones. It was based on the results of a special collective investigation made by the Therapeutic Section of the Philadelphia Polyclinic Medical Society. Drs. Mays and Bloom sent a circular letter of inquiry to various physicians, and received answers from nineteen. These nineteen reported 37 cases of biliary colic treated by olive-oil, 17 other cases were gathered from medical literature, making a total of 54. An analysis of the cases shows that there were about one-third more females than males, that 2 died, and in 3 cases there were negative results. In the remaining 51 cases favorable effects were noticed. The investigators conclude that the statistics show the positive value of olive oil in the treatment of gall-stone colic.

The question arises, then, How does it act? Dr Rosenberg's experiments are quoted, showing that olive-oil is a powerful cholagogue, stimulating the flow of bile and lessening its consistency. It is thought, therefore, that this action explains the *rationale* of this method. It is further stated that cotton-seed oil is probably just as good as olive-oil.

The dose used has generally been very large, ranging from a few ounces to a pint of oil in the twenty-four hours. It is thought that the larger doses are perhaps not necessary. The therapeutic inquiry, of which we have thus given an outline, is interesting and creditable to the Therapeutic Section. Such work, when carefully done, is of infinitely more practical utility than the presentation of cases and specimens, which makes up so large a part of modern Medical Society work. Yet the investigation carried out by Drs. Mays and Bloom also shows how difficult it is to secure therapeutic certainty. A study of the tabulated cases does not furnish to our mind any such happy conclusions regarding the use of sweet-oil as are drawn. It seems that in most cases the patients took oil and got better of the colic, but such colics usually get better anyway. While Rosenberg's experiments appear to show that sweet-oil is decidedly a cholagogue, Dr. Kishkin has made experiments which indicate that it is of no value in biliary colic, and that many of the concretions evacuated are only masses of oily acids. There are probably also a good many unreported cases which would show the inutility of the oil.

Furthermore, after all, the measure most needed in biliary colic is one that will prevent attacks, and very little evidence is presented to show that sweet-oil has prophylactic value.

We do not desire to belittle the value of the investigation made by Drs. Mays and Bloom, but it can hardly be admitted that sweet-oil yet occupies a solid position in the therapeutics of cholelithiasis. Further investigations may, however, corroborate the optimistic views taken by the Philadelphia investigators.

TUBERCULOSIS IN INFANTS.

For several years Professor L. Landouzy, of Paris, has called attention to what he believes the alarming predominance of tuberculosis as a cause of death in infants from birth to the end of the second year. In the *Revue de Médecine*, September, 1891, he reiterates his views, and dwells with great earnestness and force upon the need of more careful measures for the prevention of this source of infant mortality. In addition to previous statistics he cites those of the Hospital Tenon for the year 1890. During eleven months of this year there were 69 deaths among infants, and of these 15 died from tuberculosis, as proved by autopsy, while 3 others died probably from the same cause. He estimates that tuberculosis causes at least one-quarter of infant deaths, and thinks that about two thousand a year represents the deaths for the city of Paris.

Recent statistics from Kiel, published by Boltz, appear to show that the infant death-rate in that city from tuberculosis is 33.95 per cent. of the total infant mortality.

Professor Landouzy laments the fact that modern writers, even those of standard text-books, speak of tuberculosis as comparatively rare in infancy. While this is not strictly true, since Lorey gives a mortality among infants of over fifty per cent. on the total tubercular mortality of children, it is true that few authors or pathologists find tuberculosis among infants under the age of one year. All agree also that tuberculosis in children is much more frequent in the bones and lymphatics, while Landouzy asserts that it is frequently diffuse. It may well be that

the prevalence of tuberculosis in young children varies greatly in different countries and hospitals; and it is admitted that its prevalence in an extreme degree occurs chiefly in the lower classes.

Allowing, however, for local conditions and some bias of mind, it must yet be admitted that Professor Landouzy has called attention to a fact that deserves serious study from physicians. As he states, the baby is of all human beings the thing most manipulated and submitted to contact from others. It is dressed, undressed, nursed, washed, kissed, and caressed from morning till evening. Hence if the house, or rooms, or attendants have tuberculosis in any form, its danger is very great.

A great deal might be said as to the methods of prevention, but they are all summed up in the single rule, Keep the children from tuberculous attendants or infected rooms. Such directions apply with especial force to hospitals and the crowded homes of the poor.

THE QUESTION OF MEDICAL ETIQUETTE.

Our valued contemporary the New York *Times* has found time, amid its indictments of Russia and advocacy of a genuine Tammany democracy, to say a few unpleasant things about the subject of medical etiquette. This, we are told, is an awful and mysterious topic, concerning which the lay mind can only be sure of one thing, viz., that it is not common sense. The provocative of this vein of criticism was the occurrence of some trouble at the recent meeting of the Committee on the Organization of the Pan-American Medical Congress. The disturbance in question does not appear to us to have been of very great moment, and had to do rather with a question of parliamentary law than of medical etiquette. We might not be concerned to say anything about this latter topic, therefore, were it not that the *Times's* utterances represent a rather widely spread impression among people who do not know or do not think.

The customs which hedge about medical men in their dealings with each other, however, are not in any way mysterious or nonsensical. They are the natural outgrowth of a long experience among persons whose relations with each other and with society are peculiar. The family doctor who has watched for a generation over his patients, learned their illnesses, their weaknesses, and innermost domestic secrets, does not stand in the same relation to them as the business man. If the family at any time want other or additional medical advice, there exist technicalities which must be gone through with which simply provide justice to the regular physician and which in reality are a protection to the patient.

It has been found that on the whole the medical courtesies tend to lessen friction and prevent ill-feeling among professional men, while promoting also the welfare of the patient. No doubt as society changes there will come a need of some changes in medical etiquette, but there will always be the professional courtesies as long as the art of medicine continues a liberal one and does not sink to the level of trading on the misery and credulity of the race.

City Hospital in Malden.—The corner-stone of a new city hospital was laid in Malden, Mass., last week.

News of the Week.

The Microbic Origin of Rheumatism. — Professor Bouchard has, in effect, been engaged in investigations concerning the cause of so-called rheumatic arthropathies, most of the cases examined entering into the category of subacute and chronic rheumatism. With M. Chartrin, the professor has sought either in the articulation, or in affected parts contiguous to it, any germs that could be held responsible for the morbid changes therein discovered. In six cases out of ten the staphylococcus albus existed alone; it was associated in one instance with the S. aureus; in another with a short bacillus. Once the S. aureus was isolated, together with a new bacillus; twice cultivation experiments failed. The majority of the cultivations (cultures) were conducted on agar-agar or gelatine, in contact with air; others under sterilized oil. The professor completed his paper by the exhibition of specimens of artificially created rheumatic arthropathies produced in the lower animals by the intravenous inoculation of the above micro-organisms. In a large proportion of these experiments the bacillus pyocyanicus was employed. In a few cases, however, the introduction of the toxines secreted by the bacilli sufficed to set up a commencement of the process in the joints characteristic of rheumatism. The experimental production of these lesions requires generally a survival of one or two months or longer. In one rabbit, however, they revealed themselves in eleven days. It is interesting to note that, even when the characteristic lesions are reproduced after a short interval, muscular atrophy is associated with them as in man. The frequency with which the staphylococcus albus is met with in these arthropathies leads to the belief that some connection hitherto unsuspected exists between them and this particular micro-organism.

Some New Heart and Nerve Tonics.—Dr. Brown-Séquard's famous elixir has been the subject of many pleasantries, but the employment as therapeutical agents of extracts of organs or animal tissues seems nevertheless to be gaining ground. In a case of heart failure M. Onimus, of Monaco, has had recourse to the subcutaneous injection of an extract of heart-muscle, and he claims that this novel medication determined the disappearance of the orthopnœa. The other symptoms—shortness of breath, debility—were diminished by similar injections of a glycerine extract of spinal cord. In a typical case of glosso-labio-laryngeal paralysis, which had reached the last stage, great benefit is said to have been derived from the use of these nerve-extracts, and similar results are said to have been noted in cases of transverse myelitis, chronic spinal meningitis, and early locomotor ataxia. MM. Boinet and Boy-Teissier have been recently studying the effects on the heart of an extract of cactus grandiflorus and of its alkaloid, cactine. Tried on frogs, guinea-pigs, and tortoises, the extract was found to increase notably the energy of the cardiac contractions, the effect being ephemeral, but readily reproduced by renewed doses. After the injection of eight or ten centigrammes the contractions were slowed and rendered arhythmic. The alkaloid cactine, injected in doses of from one to ten milligrammes, strengthened the contrac-

tions permanently, without exciting slowing or irregular action. A clinical trial has been made of a tincture of cactus, and the drug is found to act as a heart tonic in functional and organic diseases, without becoming accumulative in its effects. Large doses were given at frequent intervals (120 drops per diem).—*Lancet.*

A Recent Discussion on Goitre and Cretinism in Paris revealed the fact that there are now, in thirty departments of France, no less than four hundred and twenty thousand persons suffering under the former malady, while cretinism is becoming more common in the Pyrenean and Alpine valleys. It was proposed that the government should be asked to provide funds for the draining of the soil of the districts chiefly affected, and that steps should be taken to supply the inhabitants with filtered water. For the treatment of cretinism it was suggested that some of the old transport ships might be converted into naval hospitals.

The New York State Medical Association meets in this city, October 28th, 29th, and 30th, at Mott Memorial Hall. Among the papers to be read are "Preventive Medicine," by Dr. Henry C. Van Zandt; "The Theories of Rheumatism," by Dr. John Shrady; "Heredity and Environment," by Dr. Judson B. Andrews; "Biblical Medicine," by the Rev. Dr. William C. Bitting; and "Biology and Medicine," by Dr. Hubbard W. Mitchell.

The Congress of German Naturalists and Physicians held its sixty-fourth annual meeting at Halle, beginning September 21st. Professor His, of Leipsic, presided; addresses were delivered by Professors Nothnagel, Ebstein, and Ackermann. A disinfecting apparatus, invented by Dr. Hermann Rohrbeck, of Berlin, was exhibited in the garden of the medical clinic, and attracted much attention. Its purpose is to render the flesh of locally tuberculous animals and other objectionable meat fit for human food, by subjecting it in all its parts, and within a short time, to a temperature of at least 100° C. It differs from the usual disinfectors in two respects: it lets no "dry" steam in, and it leaves no remnants of air in the interior of the disinfected articles. The latter purpose is attained by condensing the steam with which the apparatus is filled, by washing over a double cover adjusted in the boiler, a process which can be repeated *ad libitum.* In the Section of Hygiene, Professor Lehmann, of Würzburg, made a highly important and astounding communication regarding the pollution of the meal of which the coarse rye-bread eaten on the Lower Rhine is baked. In the Section of Dentistry Professor Hollaender, of Halle, reported on a new anæsthetic called pental, which does not produce total unconsciousness, but only a kind of hypnosis. In the Section of Internal Medicine, Dr. P. Guttmann, of Berlin, reported on two typical cases of malaria which had been cured by the internal administration of methylene blue; and Dr. Aufrecht on one hundred and twelve cases of pulmonary tuberculosis treated by him with tuberculin in the Magdeburg Hospital. He stated that forty eight patients had recovered, while thirty-seven had considerably, and twenty-two perceptibly, improved, while in five cases the remedy did not take effect. Hectic cases were excluded. He began with one-twentieth of a milligramme, and gradually raised the dose to five milligrammes. He injected every other day, and stopped either temporarily or altogether the moment any disturbances of the process appeared. He thinks that the fluid confers immunity on the parts round the tuberculous foci, and thus prevents the spread of the disease. Other practitioners reported similar successes, and one of them related that Koch had said to him, "The number of such reports is increasing daily, and I am still firmly convinced that my discovery is a good one." The next year's Congress is to be at Nnremberg.

A Historical Case of Infection.—The late General Boulanger, who devoted the last year of his life chiefly to nursing his mistress, contracted phthisis from her and was suffering from it at the time he committed suicide.

Dr. James C. Wilson was elected by the Board of Trustees of Jefferson Medical College to the chair of Practice of Clinical Medicine, to succeed Dr. J. M. Da Costa, who resigned last spring.

The Human Heart at the World's Fair.—Dr. Nardyz, a Pittsburg physician, is at work upon an immense papier-maché model of the human heart, for exhibition at the World's Fair. It will be three feet in diameter.

Fowler's Solution for the Cure of Warts.—Dr. Müller, of Hamburg, recommends Fowler's solution for the removal of these unsightly objects. He states that he has had uniformly good results with it. His practice is to commence in adults with two drops thrice daily, with children half a drop for a dose. The dose is to be increased week by week. The cure generally follows in from two to three weeks, the warts disappearing gradually and almost imperceptibly.

Abuses in the Indiana State Insane Asylums.—Some two or three years ago the use of the Indiana State Insane Asylums as spoils resulted in the most abominable abuse of the helpless and miserable inmates. Now a similar cause, it appears, has produced a similar result in the boss-ridden State of Pennsylvania. The Committee on Lunacy of the State Board of Charity find that charges of mismanagement and cruelty in the State Insane Hospital are substantially true. Patients were assaulted by attendants, involving serious bodily harm, and although the facts were known to the first assistant physician and the superintendent, they failed to dismiss the offending attendants or to notify the Committee on Lunacy, so that legal steps might be taken. The committee had ocular proof of the fact that the system of keeping the hospital books was imperfect. For years past the dispensing and compounding of medicines for the patients, and the responsibility of the hospital pharmacy, had been in the hands of an employee not legally or actually qualified for such responsible work. It was only after repeated remonstrance from the committee that a competent pharmacist was employed. To quote from the report: "Every allowance having been made for possible exaggeration, the committee find, upon careful examination of the evidence, that the medical control of the hospital is lax and inefficient; that the regulations imposed by the lunacy law have been repeatedly violated and set at naught; that barbarous and cruel practices upon patients by attendants have gone unreported and

unpunished, and that inefficient care has been bestowed in the selection and training of attendants."—*Civil Service Reformer.*

Medical Attendance in the Jury-room.—The sanctity of a jury-room appears to be so well guarded that even in case of sudden sickness a physician may not enter except after due process of law. In the Foss will case, tried recently in Boston, the jury were deliberating, when, late in the evening, one of them was suddenly attacked with what proved to be a stroke of apoplexy. The officer in charge notified the deputy-sheriff; who, not having authority to let anyone into the jury-room, drove across the city and informed the sheriff; but even this official was not high enough to act, and another expedition started in search of the judge. As the latter happened to be at home, the requisite order was obtained to summon a doctor.—*Boston Medical and Surgical Journal.*

The Late Dr. Parkes.—At the opening of the session of the Rush Medical College, in Chicago, on September 29th, a bronze bust of the late Dr. C. T. Parkes was unveiled with appropriate ceremonies.

The Postal Service and the Quacks.—We have received copies of circulars, presumably sent to all the postmasters of this country, in which extraordinary inducements are offered them in order to secure, by their aid, lists of persons that receive their mail at a specified office. The lists are to be of two kinds: all those not invalids, and those that are suffering from any chronic ailment. The postmaster is especially instructed to give "the names of persons suffering from rupture (breach), for which we possess a new and radical means of cure; also, those suffering from piles, or from fistula in ano, for both of which diseases we have new, improved, and radical methods of treatment; or of those afflicted with diseases of the throat and chest; or of the digestive organs, heart diseases, diseases peculiar to women, scrofulous diseases, as fever sores, white swellings, and old sores or ulcers; also, the names of any sufferers from diseases of the urinary organs, as diabetes, Bright's disease, gravel, inflammation of the bladder, stone in the bladder, strictures, and kindred affections; or from epilepsy or fits, chorea or St. Vitus's dance, paralysis, curvature of the spine, nervous debility; or from tumors, or any other chronic diseases; for all of which our institution offers special advantages and facilities for treatment. Please to be particular to indicate opposite every name, 'in the Invalids' division of the list,' the disease (if known to you) with which the party [*sic!*] is supposed to be afflicted." Upon the receipt of the list the presumption is that the people will be deluged with testimonials and promises to cure.—*Medical News.*

Physicians Boycotted by Debtors.—We learn that the thriving town of Stuttgart, Ark., is in the throes of a genuine sensation, caused by the action of the leading physicians of the place forming a combine against citizens who do not settle their doctor's bills promptly. Several days ago the medical men of that place formed an organization for their protection. They have a clause in their by-laws prohibiting any member from responding to a call sent in by a citizen whose name appears on the bad-pay list. Consequently a mass meeting, attended by three hundred citizens of Chester County, was held, and strong denunciatory resolutions were adopted against the physicians belonging to the organization. It was unanimously agreed that a general boycott should be inaugurated against all the physicians unless they leave the society in ten days. It is quite probable that the assemblage was composed of men guilty of not paying their doctors, as otherwise there would have been no cause for action. With the doctors it would seem to be the question whether it is best to work for nothing or not work at all. Except for the work, the net result would be the same. The only compromise for such of them as must work is to club together and found a free dispensary, New York style, and establish a teaching centre. There is nothing like seizing upon the next best thing.

Tuberculin Again to the Front.—Professor Koch has published an exhaustive article describing the preparation of tuberculin. He declares that he has at last succeeded in purifying the lymph of all inflammatory tendency, but the reactions remain. In other words, tuberculin is said to be improved as tuberculin, but practically the tubercle bacillus is as rampant and defiant as ever. A year ago this would have been surprising news, but since that time lymph, having gone up like a rocket, comes down as a stick upon which we must fly a half-masted flag. Alas! it has not lived long enough for a first anniversary.

The Death of Dr. Christopher Johnson.—Dr. Christopher Johnson, one of the most eminent of Southern physicians, died suddenly in Baltimore, October 11th, in the sixty-ninth year of his age. The end was not expected, as he was, apparently, in the full possession of his strength and faculties, and had not given up his practice. Dr. Johnson was graduated in medicine in 1843. He succeeded Dr. Alan Smith in the Chair of Surgery in the University of Maryland, and contributed greatly to the building up of that institution. He devoted a great deal of his attention to pathology, and his contributions to medical journals made his name widely known. He introduced many improvements in instruments. He travelled extensively, and was a leading figure in the cultured society of Baltimore.

The Southern Surgical and Gynecological Association.—The fourth annual session of the Southern Surgical and Gynecological Association will be held in the hall of the House of Delegates, in the city of Richmond, Va., on Tuesday, Wednesday, and Thursday, November 10, 11, and 12, 1891, under the presidency of Dr. L. S. McMurtry, of Louisville. The Secretary, Dr. W. E. B. Davis, of Birmingham, Ala., is arranging a full and interesting programme; and the Chairman of the Committee of Arrangements, Dr. Hunter McGuire, of Richmond, announces that the facilities for a successful meeting are complete. This Association is essentially a working organization, and is doing a great work in the Southern States. The three volumes of "Transactions" already issued are highly creditable to any society or country, and have elicited the highest commendation from the medical press in this country and Europe. The meeting in Richmond promises to be the most successful the Association has held. Members of the profession generally are cordially invited to attend.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Stated Meeting, October 12, 1891.

ROBERT ABBE, M.D., CHAIRMAN PRO TEM.

Talipes Equino-varus; Phelps's Operation.—DR. WILLY MEYER presented a young man, aged seventeen, who had entered the German Hospital, on account of congenital talipes equino-varus, last October. He had never received treatment from a physician. Having heard of the favorable results from open incision practised by Dr. A. M. Phelps, he concluded to do this operation. After making the cutting operation the foot was easily placed in the over-corrected position, in which it was retained by plaster-of-Paris dressing. The first splint was allowed to remain six weeks, at the end of which time the wound had almost entirely healed. The patient was able to walk about after the second splint was applied. The operation was performed in October, and the patient was discharged in February. He was at present able to walk on the full sole of the foot. There was slight motion in the astragalo-tibial joint.

Gastrostomy for Cancerous Stricture of the Œsophagus.—DR. MEYER also presented a man, seventy-one years of age, who had entered the German Hospital on April 5th of the present year, on account of cancerous stricture of the œsophagus. He had been steadily failing in health, had lost much in weight, was only able to swallow fluids, and therefore it was decided to perform gastrostomy at once. Von Hacker's procedure was adopted of separating the belly of the left rectus muscle, in order that it might act as a sort of sphincter and prevent leakage around the stomach-tube. The incision was made a little below the ribs on the left side, about three-quarters of an inch from the median white line. After the abdominal cavity had been opened the stomach was stitched on its anterior aspect at a spot which could be easily brought forward. He waited forty-eight hours before giving food through the inserted tube. The opening into the stomach was not made with the Paquelin cautery, but with the knife, which enabled one to make the incision just the size he wished, or just large enough to admit the drainage-tube. The patient had gained in weight since the operation.

Result after Open Operation for Club-foot.—DR. A. M. PHELPS presented a girl, aged four years and a half, who was born with talipes equino varus in the left foot. She had undergone treatment at different hands before she reached him, which was last July. He cut the tendo Achillis, and on the inside and sole of the foot the tendons of the contracted muscles, dressed the wound in the over-corrected position, and, after two months, performed osteotomy upon the femur, just above the knee, to further place the foot in the straight position. The result had been very satisfactory. There was some motion in the toes. It had been objected that if all the tendons were cut there would be loss of motion in the toes, but this case and other experience of the speaker had shown that they usually regained their mobility, at least in some degree. Even when entirely lost, the patient could walk about as well as if there were mobility. It had been further objected that the open incision would leave a tender scar, but he had had no such result in about one hundred and eighty cases which he had operated upon.

Dr. Phelps showed photographs of a number of cases as they appeared before and after operations, and justified the treatment which he adopted. Believing that the equinus preceded the varus, he cut the tendo Achillis first, then divided the soft parts on the inside of the foot in the order in which they were put upon tension, while trying to straighten the foot, going as far as might be necessary in order to over-correct the malposition. If division of the tendons was not sufficient, he went on to do osteotomy, but in 160 cases he had to resort to osteotomy in only 17. The astragalus was first attacked, then, if necessary, the os calcis, etc., and finally, if called for, do Pirogoff's amputation. To recapitulate, first try strong manipulation and fixation; second, subcutaneous tenotomy; third, open incision; fourth, linear osteotomy on the astragalus; fifth, attack the cuneiform and os calcis; sixth, take out the cuboid and scaphoid; seventh, amputate. But suppose one first performed the severer osteotomy, and failed to correct the deformity, what could he do next? By proceeding with the milder operations first, one would find that he could avoid osteotomy in more than seventy-five per cent. of the cases. It was not right, in his opinion, to begin with osteotomy, if for no other reason than that about five per cent. of the cases proved fatal. Removal of the astragalus had been largely abandoned by European surgeons.

DR. V. P. GIBNEY said he thought Dr. Phelps's operation was a good one, but he regretted to hear removal of the astragalus spoken of so discouragingly. He believed that with the same amount of after-care given the foot by way of dressings as Dr. Phelps gave his cases, equally good results would follow removal of the astragalus. He thought removal of this bone was easier than division of the astragalus and forcing it around into position, as practised by Dr. Phelps. He was, in fact, better pleased with removal of the astragalus than with other operations on the bones. He had tried Dr. Phelps's method in only two cases, one of which was a failure.

DR. REGINALD H. SAYRE was in accord with the remarks of Dr. Phelps, except that he preferred to divide the soft tissues in the sole of the foot before instead of after cutting the tendo Achillis. He thought he had better control of the foot while wrenching it around than after cutting the tendo Achillis. He emphasized what Dr. Gibney had said regarding the necessity for keeping the foot in the new position long enough. Until the child was enabled by voluntary muscular action to bring the foot into correct position the case was not cured.

DR. MEYER thought there were few patients under four years of age in whom the deformity could not be cured by manual force, and where this could be done it was certainly better than to operate.

DR. KETCH and DR. ABBE made some remarks, the latter expressing surprise that so much toe motion had been retained in these cases, for it seemed hardly probable that in the open wound tendon united to tendon in the relations existing before the operation.

DR. PHELPS said that Schede had found the tendons united in the order in which they had been cut in one case in which he had opportunity to make a dissection, death having taken place from pneumonia.

Dermatol, a Substitute for Iodoform.—DR. C. A. POWERS presented a box of dermatol, with the use of which he had become acquainted while in Europe. Its advantages over iodoform were that it was absolutely non-poisonous and non-irritating. During the last two months he had employed it in somewhat over one hundred and fifty cases. It caused wounds and ulcers to heal in an extraordinarily short time, being in this respect far better than iodoform.

THE CHAIRMAN had had some experience with the remedy, and regarded it as the most drying and purifying of all the powders when applied to weeping ulcers, etc.

Laparotomy for Acute Intussusception.—DR. B. F. CURTIS read the paper, drawing some practical lessons from a case whose history was given. The man was taken to the hospital, after he had remained in charge of a physician for three days, with symptoms which pointed to some grave intestinal trouble, although it could not be asserted before the operation whether it was a case of acute perforating peritonitis or intussusception. Some of the symptoms pointed to the one condition, some to the other. There was pain over the abdomen in general, there was vomiting which assumed a fecal odor, there

were no passages, no tenesmus, no distention. The man had phthisical changes in the lungs, and it was thought probable there were tubercular changes in the intestines. Dr. Curtis opened the abdomen; straw-colored serum escaped; the intestine was examined, and at first the intussusception was passed over under the supposition that it was fecal matter, but going over it the second time its true nature was recognized. At least eight inches of the ilium were involved. Four inches were in poor condition, and were placed at the abdominal opening, surrounded by gauze, the idea being that in case it should rupture the intestinal contents would find their way out instead of into the abdominal cavity; if it did not rupture, the gauze could afterward be removed and the wound closed by suture. The operation lasted forty-five minutes. The patient died within five hours, but before death there was a passage, which proved that the gauze about the loop had not caused obstruction by pressure or traction. The case showed that the adhesions and pathological changes might be very slight, although the intussusception had lasted several days. It further illustrated the need of early operation, for it was not unlikely the patient would have lived had relief been brought even twenty-four hours earlier. Another case was cited which went to show that a critical collapse might occur so quickly that even in a short interval the patient might fall from a favorable to a hopeless condition. The dilatory course pursued by both surgeon and general practitioner, but especially by the latter, often proved fatal to the patient.

Would Make an Artificial Anus.—The Chairman related a case of intussusception in the small intestine, operated upon by him last summer; in this instance also there being absence of diarrhœa, mucous or bloody stools. The patient died on the table. Regarding the statistics referred to in the paper, there being fourteen cases in which suturing was done after resection of the gangrenous intestines, with three recoveries, and fourteen other cases in which an artificial anus was made, with only one recovery, such statistics were not of much value as deciding the comparative safety of the two procedures. Evidently, in the majority of instances where an artificial anus was made, this course was pursued simply because the case was too desperate to justify immediate resection. His own feeling was decidedly in favor of making an artificial anus in all the cases of obstruction with gangrene, extensive perforations, etc., and subsequently any suturing could be done which might be necessary.

A Critical Study of the Biceps Muscle as Related to Disease In and Around the Knee-joint.—Dr. E. M. Mosher read a paper with this title. She had been led to make a critical study of the biceps as related to diseases in and around the knee-joint, by having to treat a case which she related somewhat in tragical detail.

The patient began to suffer after sitting two hours with the knee bent, being unable during that time to change her position. Subsequently she had pain in the joint if she stood long at a time, and when the knee was in any way exposed to strain or slight injury. In fact, during seven years the longest time she was off crutches was a year and a half. She was subjected to various kinds of treatment at the hands of various surgeons. Some diagnosticated periostitis, some synovitis, some a strained biceps, etc. On carefully studying this case, Dr. Mosher came to the conclusion that the action of the biceps muscle was not only the source of irritation which perpetuated the trouble, but that it was also the original cause of it. After consultation with Dr. Rushmore the tibial tendon of the biceps was divided, after which the patient was practically relieved. Considerable atrophy took place in the lower half of the short head of the biceps, and external rotation was impaired. The author claimed to have demonstrated by anatomical dissections that the biceps, and the biceps only, had through its tendon intimate connection with the interior of the knee-joint. Fibres of the biceps coming from the supra-condyloid ridge were inserted into the coronary ligament, through it were connected with the capsular ligament, and thus with the intra-articular cartilage, synovial membrane, and very interior of the joint. In the case whose history she had given there had been, and she believed the same occurred in other cases, forced action of this portion of the biceps, and injury had taken place within the joint, which must necessarily be kept up as long as the limb was in use.

THE NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, May 13, 1891.

H. M. Biggs, M.D., President, in the Chair.

Aneurism of the Basilar Artery.—Dr. W. L. Carr presented a specimen of aneurism of the basilar artery, just at its junction with the vertebral. The specimen was removed from a young man, twenty-eight years of age, a telegraph lineman by occupation. Eight years before he presented himself for the present trouble; he fell thirty feet, and struck on the buttocks. This fall apparently gave rise to no serious consequences. There were no signs of syphilis, and the patient gave no history of such infection. With the exception of a severe attack of malaria while in Georgia, his health remained good up to April 11th, when Dr. Hoyt, of this city, to whom the speaker was indebted for the observations on the case, was called in to see the patient. He had been seized with clonic convulsions in which the head was thrown back. He complained of pain in the back of the head, and in the frontal, dorsal, and lumbar regions. There was slight tremulousness of the tongue when protruded, slight photophobia, and symmetrical sluggishness of the pupils, with possibly a slight drawing of the face to the left side. There was also a scarcely perceptible ptosis on the right side. The reflexes were lost and sensation was diminished over the extremities. Urination and defecation were normal. Two days later, when first seen by the speaker, the grasp on the right side was somewhat diminished; his pulse was 54 and full, respirations, 19; pupils somewhat contracted and sluggish; speech very deliberate, but he answered questions correctly, and related events in their chronological order. The pain in the cervical region was the most prominent symptom. One week later, another convulsion occurred, and he died very soon afterward.

The post-mortem examination was made twenty-four hours after death. He was indebted to Dr. W. H. Porter for assistance in this examination, and in the preparation of the report of the autopsy. The cranium was found to be unusually thick, and on the outer surface, on the anterior portion of the calvarium, on the left side, was a deep pit as if there had been a fracture of the skull, but the internal table was intact. The dura mater was fully three times the normal thickness, and was adherent to the pia mater along the whole line of the great longitudinal fissure at the vertex, and could not be separated from the underlying tissues, except at the expense of the pia mater and the cortical substance of the brain. When the calvarium and dura mater were removed there was practically no escape of blood or serum. At the junction of the medulla and pons, all over the anterior surface of the pons, and in the inter-pedunculated space, at the base of the fissure of Sylvius, there was a distinct hemorrhage and clotting, which was most marked over the pons and the Sylvian fissure. The hemorrhage was confined between the pia mater and the brain, probably on account of the great thickening of the pia mater. The lateral ventricles were distended with bloody serum, and on the right side there was a little clotted blood, There was no laceration of brain-tissue. The hemorrhage was certainly not intra-cerebral, as on dissecting along the Sylvian fissure the vessels were found to be natural. Springing from the posterior surface and right side of the basilar artery was a sacculated aneurism, three-eighths of an inch in diameter, which had burst,

giving rise to the hemorrhage, cerebral compression, and death of the patient.

Dr. Carr said that he had only been able to find the record of one other such case among the "Transactions" of the Society, and that one was presented by the President in 1889.

Dr. W. H. Porter said that although there was no syphilitic history, it was difficult to understand how, in so young a man, there could be such an extensive thickening of the meninges, except as the result of syphilis. This disease might easily bring about such changes in the cerebral vessels that they would be unable to regulate the nutritive supply, and so would cause an unusual thickening and a strain upon the vessels. It might perhaps also explain the development of the aneurism. Again, it was interesting to note that the transverse foramen and the foramen of Magendie seemed to be completely occluded, and the left ventricles were very much dilated—which, together with the thickening of the pia mater and compression of the cortical substance, would explain in a measure the sluggishness of intellect and the primary convulsion which occurred before the hemorrhage. This was the fifth case of cerebral aneurism which he had seen, including in this number aneurisms affecting the middle, posterior cerebral, and basilar arteries.

Dr. B. Sachs thought there was no other probable explanation of the condition presented, except specific infection, and this view was favored by the existence of the aneurism; for it was generally conceded that aneurisms were most commonly of syphilitic origin.

In answer to a question from Dr. Mary Putnam-Jacobi, as to whether he considered a syphilitic endarteritis to be the cause of the aneurism, Dr. Sachs said, that although this form of endarteritis frequently tended to obliteration, examinations had shown in some of these cases a syphilitic endarteritis of other vessels. Aneurisms did, of course, occur in young persons where there was no suspicion of syphilis; thus Osler reports a very interesting case of aneurism of the anterior cerebral artery occurring in a boy of six years, where there was a history of traumatism, and a distinctly negative history as regards syphilis.

The President thought the case presented was extremely rare. As bearing upon this question of the etiology of such aneurisms, he desired to refer to a case in which there was an aneurism at the junction of the anterior communicating artery, which ruptured and caused sudden death. The case occurred in private practice, and the patient, who was twenty-seven years of age, and a prominent young man in this city, gave a very accurate history. There was absolutely no specific history obtainable, and there was no reason to suspect such infection. There were no changes in the blood-vessels of any part of the body which were suggestive of syphilis or any other disease. At the site of the aneurismal dilatation and rupture, nothing could be found except a thinning of the coats, and hence it seemed probable that the condition was the result of a congenital deficiency in the arterial walls, rather than the result of disease.

Colloid Secondary to Internal Cancer.—Dr. W. H. Porter presented a small tumor which had existed in the temporal region as a small papillary protrusion. The case had been sent to him by Dr. Janvrin, and gave a peculiar clinical history. A little over one year ago the patient, a gentleman apparently in robust health, had an extensive growth removed from the rectum, and an examination of the portion removed showed it to be carcinomatous. The patient made a slow but complete recovery. About three months later he received a blow upon the temple, and soon afterward the present tumor developed and became so soft and fluctuating that it was supposed to be an abscess, but an incision did not evacuate any pus. After about three months more this tumor was removed and sent to the speaker for examination. He found that instead of presenting the characteristic appearances of a true epithelioma, it had the structure of a colloid. An examination of the rectum at this time showed a recurrence of the disease.

It seemed to him very strange that an integumental growth should follow one which apparently originated in the alimentary tract, and that this secondary growth should be of a colloid nature rather than of the epithelial type commonly found in the skin. He had never seen such a growth in the integument, and in a casual examination of the literature of the subject he had not found any such case reported.

A Renal Calculus.—Dr. J. E. Weeks, on behalf of Dr. E. D. Fisher, presented a specimen of renal calculus which occupied the whole of the kidney, the cortex of which was greatly atrophied. The other kidney was normal. The specimen had been removed from a laborer of middle age, who had not presented any symptoms referable either to the kidney or to the bladder. The nature of the calculus had not yet been determined, but it was extremely hard.

Dr. Mary Putnam-Jacobi said that in connection with such extensive disease of one kidney it might be interesting to call attention to a method recently published by Dr. Willy Meyer, of determining by means of the cystoscope whether or not both kidneys are functionating. In the case reported, which was that of a woman, he had found that, by counting the number of drops of urine discharged from each ureter in a given time, one could form a very good idea of the functional activity of each kidney. In this particular case, fifteen times as much urine was discharged from one ureter than from the other, and at a subsequent operation it was found that the kidney which had excreted the urine so slowly was extensively diseased.

Dr. Porter said that apparently there was no kidney structure remaining in the specimen just presented. The method of diagnosis just alluded to he considered a very important one. He cited the case of a female whose symptoms had all been referable to the bladder, with the exception of one very slight attack of renal colic. The bladder symptoms were so severe that an opening was made into this viscus from the vagina. The urine discharged from this opening was highly acid, and contained leucocytes and a small quantity of mucus and albumin. Subsequently the ureters were catheterized and the urine from each kidney separately subjected to examination. The urine from one kidney was perfectly normal, while that from the other was highly acid and contained mucus, corpuscles, and albumin. Several surgeons having failed to detect any stone, an exploratory operation was performed, and a large stone was found in one kidney. It was broken up and removed, and the patient recovered. His experience had led him to conclude that in cases where there were bladder symptoms associated with highly acid urine, the trouble was higher up than the bladder. In every case he had seen, where an opportunity had been afforded to confirm the diagnosis by operation or autopsy, this statement had held good.

The President said that he had been much impressed with the comparative frequency, in the autopsies at the Almshouse, of these cases of renal calculi occurring in patients who had given no history of such a condition. He had thought it likely that in the early development of the stone there had been symptoms produced, and that later on the mucous membrane became tolerant of its presence and gave rise to no further symptoms. It is not at all uncommon to find one or more calculi of moderate size in the pelvis of the kidney when there has been nothing to suggest renal disease.

Dr. J. E. Weeks presented the brain from a man, sixty-five years of age, who died in the Almshouse on April 26th, from congestion of the lungs following "the grip." Ten years ago he had an attack of right hemiplegia, from which he recovered, and a few years later he had another attack, from which he almost entirely recovered. One year ago he had still another one, which was accompanied

by some defect of vision, and some difficulty in speech, and in the recognition of objects. Examination showed that he had left-side hemianopsia; the interior of the eyes and the movements of the eyes were perfectly normal, the pupils reacted perfectly to light when the light was on either the blind or the seeing side, and the division between these parts was perpendicular and almost perfectly straight. At first there was no motor aphasia, but during the last few days of life there was amnesic aphasia and agraphia.

On post-mortem examination the viscera were found to be in fair condition, with the exception of the kidneys, which were small and granular. The right side of the brain was normal in size; the left side of the cranial cavity was partly occupied by brain-substance, and partly by a cyst, the outer wall of which was made up almost entirely of pia mater, while the inner wall was formed by the brain. The cyst-wall was so very thin that although the brain was carefully removed the cyst collapsed and its serous contents escaped. The basilar artery was found to be atheromatous in various places, and at the point where the posterior cerebral artery is given off there was a fusiform aneurism containing a clot, which was apparently of post-mortem origin. The specimen showed the left posterior cerebral artery reduced to a cord, and the right of normal size. The left middle cerebral had also been converted into a cord, and at one point, where a small branch was given off, there was considerable thickening. The ascending parietal and ascending frontal convolutions, and the motor region, were almost intact. In the vicinity of the island of Reil the brain-tissue was greatly atrophied, as was also the lower frontal convolution. The occipital lobe had almost disappeared, and nearly all the brain-tissue back of the Sylvian fissure was shrunken. There was a little pigmentation and a very small spot of softening in the occipital lobe.

The symptoms were those only which could be readily accounted for by the loss of brain-substance. He was unable to say what was the cause of the arterial changes, as there was no history of syphilis. The patient was a fairly intelligent man, and the convolutions, though extremely small, were all present. The preservation of a portion of the superior temporal convolution accounts for the absence of mind blindness. The space which had been apparently previously occupied by the temporal lobe was filled by the sub-pial cyst, but this cyst did not involve the brain.

Dr. Mary Putnam-Jacobi said that it had often been noticed that the inability to recall the names of objects was often present, when the recognition of objects and the capacity for other work still persisted, and this had been explained by supposing that, so long as the mind had a visual image to work with, it was less in need of a sign than in the case of other parts of speech which could not be replaced by a visual image. The case under discussion was quite in accordance with this line of reasoning.

Dr. Sachs said that it was very unusual to find such extensive atrophy in the adult brain, and that no matter how long a thrombosis may have existed, he thought it hardly likely that it would result in an entire absence of the occipital lobe. It seemed to him more probable that it was a case of congenital deficiency of the brain. Although it was the rule for such cases to show defective intellect, it was to be remembered that quite a large percentage of cases of typical congenital deficiency of the brain had been found accidentally in persons apparently normal, who had died of some other disease, and this was readily explained by supposing that one hemisphere took upon itself the functions of the other.

Dr. Porter concurred in this view of the etiology of the condition found in the case under discussion.

The President said that he had seen a great many cases at the Almshouse where there had been large areas of destruction of brain-tissue from softening, thrombosis, hemorrhage, and similar causes, but he had never seen a case in which the convolutions had been so well preserved as in this specimen, and yet where the degree of atrophy was so extreme.

Dr. W. P. Northrup thought the history of the case seemed to indicate that there had been an œdema of the pia and subsequent softening, and he thought the explanation given by Dr. Weeks was the correct one.

Dr. Weeks replied that the history was entirely against its being a congenital defect. The total loss or atrophy of the occipital lobe could be accounted for by the total occlusion of the posterior cerebral artery, which furnished the nutrition to this lobe. The case was very similar to one which he had under observation for two years or more, and who was still living. The patient is a woman, who in June, 1887, one week after confinement, suddenly developed left hemianopsia, and for a short time, left hemiplegia. She recovered from the latter, but the former is still present. She undoubtedly had an embolism of the right middle cerebral artery. Fourteen months later, she was again confined, and about one week after this she developed a right-side hemiplegia with total mind blindness. At present she has amnesic aphasia and agraphia.

The specimen presented by Dr. Weeks was referred to a committee consisting of Drs. Weeks, Sachs, and Van Gieson, for further investigation and report.

Dr. Sachs presented the brain from a case of acquired cerebral palsy, occurring in a child who was eight and a half years of age at the time of his death. Typical right hemiplegia was developed without coma or convulsions, and it pursued the ordinary course for a long time, when the child suddenly fell down without coma or convulsions. The old hemiplegia was increased, and the child passed into a comatose condition; there was double optic neuritis, the other side became involved, as also some of the cranial nerves, and after several weeks the child died in coma. A diagnosis was made of initial palsy, due to old meningeal hemorrhage, which had probably ended in a cystic condition, and that this cystic tumor was the cause of the deepening of the old hemiparesis. The autopsy substantiated this diagnosis.

The cystic condition of the cortex and the enormous size of the tumor were especially noteworthy. The basilar symptoms developed in the case were supposed to be due to basilar meningitis, and the only way of associating these two sets of facts was by supposing that the original tumor was a tubercle. The basilar symptoms were produced by the second tumor in the temporosphenoidal lobe. It has been supposed that accidents to the cerebral vessels in children were comparatively rare, and quite recently a writer made the statement that these accidents were necessarily the result of embolism. The structure of the cerebral vessels in children has not been sufficiently studied, but, as the speaker had pointed out, fatty degeneration of the blood-vessels in the young was extremely frequent, and therefore it was reasonable to suppose that it might play the *rôle* that atheromatous degeneration does in adults. The axis of the brain had become much distorted by the tumor, and the first symptoms were observed about eight weeks before death. The tumor extended from the frontal region to the occipital. The structure of the tumors seemed to him to be that of mixed sarcoma, but as some of his specimens bore a strong resemblance to tubercle he would like the opinion of the Society upon this point.

Dr. J. M. Byron said that he had never seen a giant-cell sarcoma in which the nuclei were so distinct, and, in fact, there were only two pathological conditions in which the nuclei showed so clearly as in the specimen presented, *i.e.*, in tuberculosis and in actinomycosis. The specimen showed cells which were perfectly characteristic of tubercle, and hence he looked upon this specimen as one of large solitary tubercle.

Dr. Northrup said that he was of the same opinion, for, in addition to the giant-cells present, there was a well-defined area of coagulation necrosis.

Dr. Sachs remarked that in the first specimen which he had examined there were no giant-cells at all.

The specimen was referred to the microscopical committee for examination.

Syphilis of the Brain.—Dr. Sachs also presented microscopical specimens from a case of syphilis of the brain, and also other slides showing the difference between a gumma in the pons, and a gummatous infiltration.

The patient, a woman, thirty-five years of age, had had repeated attacks of paralysis, from which she had recovered. Finally, she had an attack of paraplegia with involvement of various cranial nerves, and the diagnosis became easy of syphilitic deposit in the pons. The interesting feature was that that there was not only a syphilitic infiltration of the pons, but a general infiltration along the course of the entire cord, and along the brain axis. He preferred to call this condition multiple cerebro-spinal syphilis, as the symptoms resembled very closely those of multiple cerebro-spinal sclerosis.

Dr. Northrup presented a slide from a case of gonorrhœa, showing the characteristic grouping of the gonococci about the nucleus and within the cell-body. The specimen had been obtained from a healthy young adult on the third day after exposure, and the first day on which there were any unusual symptoms about the urethra. It was his first attack, and the disease ran a typical course, and now, three and one-half months later, there is still a persistent gleety discharge, in which are a few gonococci.

Children among the poorer classes not infrequently have a suspicious vaginal discharge, and it is sometimes desirable to determine whether this is simple or specific in its nature. He thought the presence af the gonococci in these characteristic groups was considered now to be an exact test in medico-legal cases.

A Method of Rendering Thick Sections of Tissues Transparent.—Dr. J. West Roosevelt said that while investigating the structure of the lungs, the idea had occurred to him that it might be possible to saturate the lung with some substance which would render even large and very thick sections quite transparent. He had found a mixture of oil of cloves, oil of cedar, with sometimes a small proportion of Venice turpentine, could be made with such an index of refraction as to bring about such a novel and desirable result. The proportions of the different ingredients necessarily varies a good deal with the different specimens of the oils, but by beginning with two thirds oil of cedar and one-third oil of cloves, and stirring with a flint-glass rod, the correct index of refraction could be readily determined, for when the proper proportions were obtained, the rod would be nearly invisible in the mixture. Afterward the lungs were bleached in this mixture until the desired degree of transparency was obtained.

This method had incidentally shown a very interesting and an exceedingly satisfactory method of demonstrating the intricate structure of the air-vesicles.

Dr. Roosevelt exhibited some specimens which had been so prepared, and remarked that he thought the method was opportune, as it would probably prove useful in studying the circulatory conditions existing in the brain.

The Society then went into executive session.

Lelior claims excellent results in the abortive treatment of herpes from the local use of 1 part of resorcin or menthol to 50 of alcohol. If there is much pain he uses gauze steeped in the following solution and covered with an impermeable dressing: Alcohol, 100 parts; cocaine hydrochlorate, 1 part; extract of cannabis indica, 10 parts; mint essence, 10 parts.—*Times and Register.*

To Prevent Sore Nipples.—Apply a mixture of tannin and glycerine, two drachms to the ounce, daily, during the last month of pregnancy. This renders the nipples tough, but elastic.—*Annals Hygiene.*

Correspondence.

EHRLICH'S TEST IN TYPHOID FEVER.

To the Editor of the Medical Record.

Sir: Have we in fact, in "Ehrlich's Test in Typhoid Fever," a really efficient, reliable, convenient, ready, and practical aid in the early diagnosis of typhoid fever, at a period, indeed, prior to the appearance of the rash or other recognized diagnostic symptoms, *i.e.*, as early as the fifth to the ninth day of the disease? Such, at least, is the claim made for the test, and it appears well founded.

In the article printed on p. 388 of the Medical Record of September 26, 1891, entitled "Ehrlich's Test in Typhoid Fever," and credited to the *Therapeutic Gazette*, the claim is virtually conceded and a brief synopsis of the test is given. It is to be regretted, however, that inaccuracy as to certain details mars that article which it would be unwise to excuse, because just a shade of suspicion of gross carelessness rests on its writer.

In describing test solution No. 2, he writes: "2. A five per cent. solution of sodium nitrate," etc., two errors in one line; for, as printed in the *Therapeutic Gazette* of February, 1891, test solution No. 2 is thus described: "A one-half per cent. solution of sodium nitrite," etc.

Ehrlich's test requires for its successful application the two following named test solutions: No. 1, containing a saturated solution of sulphanilic acid in diluted hydrochloric acid, reduced to five per cent., and No. 2, consisting of a one-half per cent. solution of sodium nitrite, to be kept in separate bottles until wanted for use; then forty c.c. of solution No. 1 and one c.c. of solution No. 2 are mixed together in a measuring-glass and briskly agitated, when the following named reactions take place, viz.: the hydrochloric acid and sodium nitrite react on each other, liberating free nitrous acid in the nascent state, which reacts with the sulphanilic acid and liberates in the mixture diazo-benzene-sulphonic acid, the essential substance in the final test mixture which is employed to react on the urine, to bring out the play of colors characterizing Ehrlich's test. While sulphanilic acid may be replaced by other similar bodies in preparing test solution No. 1, neither of the other compounds can be omitted in preparing the test solutions without spoiling and defeating the experiments; and yet the Record article not only substitutes sodium nitrate for sodium nitrite, as above shown, but also omits the sodium nitrite solution altogether in describing the "best method of performing the test," etc. But feel not abashed at this default, for the same omission occurs twice in the original and obscurely written article in the *Gazette*.

Speaking of the obvious importance of observing to the letter Ehrlich's directions and precautions for applying his test with success, that original *Gazette* article ascribes to Ehrlich the saying that "there are but few tests in chemistry which cannot be spoiled by careless manipution," and verifies the remark in a truly singular manner.

And, now, as the final success or failure of Ehrlich's test depends on the intelligence and fidelity with which it shall be applied, ought we not, in justice to Ehrlich and all the interests involved, work as if we believed that whatever is worth doing at all is worth doing well? If Ehrlich's test have the practical utility that is claimed for it, then has the practice of medicine taken another step in advance which the profession, ever mindful of its responsibilities and duties, will gladly maintain.

George D. Wilber, M.D.

Pueblo, Col., October 10, 1891.

THE GEORGIA LIQUOR STATUTE.

To the Editor of the Medical Record.

Sir: In the Medical Record of October 10, 1891, p. 455, in commenting on the Georgia statute disqualifying any physician from practising medicine who is a drunkard, you close with the following remarkable sentence:

"If such a statute really exists, the physicians of Georgia should see to it that it is repealed, or be convicted of possessing neither manhood nor self respect."

The responsibilities resting upon the physician are so great that he, of all men, should have a clear head and steady hand, which faculties a man that drinks, and especially the drunkard, cannot have. The most of our railroads are discharging trainmen for getting drunk, or even drinking or loafing around saloons, and the public are sustaining the companies; and it seems only right that the State should protect its citizens against the physicians, railroad men, or any other class of men in whose hands the lives of the people are entrusted.

If physicians possess no manhood or self-respect, who will sit idly by and permit such a law to be enacted, or favor a law prohibiting a physician from practising, a railroad conductor or engineer from running an express train upon which I am travelling, who drinks or gets drunk, then I wish we could have more men who have no manhood and self respect. Drunkenness is getting to be so frequent an excuse for crime, so frequent an excuse for irresponsible conduct of all classes of men, that it seems only just and right that the people should demand that everyone who holds the lives and health of people in his hands should have a steady hand, and a clear head to guide that hand.

It seems to some of your readers very remarkable, to say the least, that the editor of one of the best medical journals in the United States should make such a statement as the above quotation. It is all the more remarkable, when we consider that you, as an educated medical man, knowing the evil effects of alcoholics upon the human system, and the irresponsibleness of those who drink, especially to excess, in the face of all this to make the assertion, that he was devoid of manhood who would endeavor to stamp out drunkenness, or would forbid, by legal enactments, the drunkard from tampering with the lives of the people.

The physicians should take the lead in this matter of temperance, should instruct the people, educate them on the proper use and the fearful effects of the abuse of alcohol; and to a large class of your readers it seems only just and right, for humanity's sake, that every man who gets drunk, or runs to saloons, should not be permitted to hold any position where the health and lives of the people are immediately under his care or supervision.

Very respectfully, J. Z. POWELL, M.D.

LOGANSPORT, IND.

[Our esteemed correspondent is perfectly right in saying that no physician should ever get drunk, and that the community has a right to protect itself against any of the evils growing out of drunkenness. In all this we entirely agree with him, we only deplore the necessity of any such law as applying to Georgia physicians. Notwithstanding our great respect for our correspondent's opinion, we are still, under the circumstances, forced to repeat that the Georgia law, as it now stands, is an insult to the profession of that State, and should be modified or repealed accordingly.—ED.].

Antiseptic Dissecting Instrument Cases.—The latest announcement is that for an antiseptic dissecting instrument. Of course it is intended that the "subject" shall be duly protected against infection as well as the operator, for it is a bad rule that cannot work both ways. The utility of the measure, however, is on a par with the recommendation of a graveyard, to the effect that it was on high ground, was well drained, and that no case of malaria had occurred within its limits. In fact, it was a very desirable locality even for well people.

New Instruments.

A UNIVERSAL NASAL SAW.

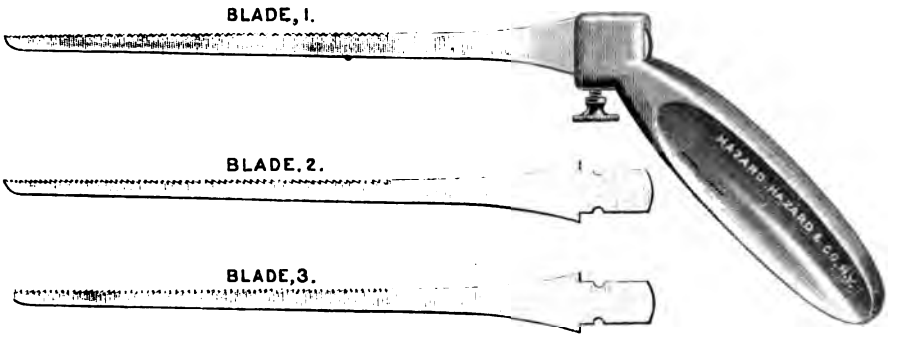
BY CHARLES A. BUCKLIN, A.M., M.D.,

NEW YORK.

THIS saw combines the advantages of similar instruments, obviates their defects, and represents the conclusions resulting from an extended experience.

The handle is of sufficient size to give one a firm grasp, which is important when the bony deformity is large. Being of aluminium, it is aseptic and light, notwithstanding its size.

The requirements for nasal saws are as follows: They must have the necessary length and strength. They must cut without springing the septum out of its normal position by bending. A properly made saw will not displace a deformity in the nostril before the section is completed.



These desired results are obtained by regulating the size, thickness, and shape of the saw teeth. I regret that many of the nasal saws in the market are not designed to meet the necessary requirements.

Thick, large, and improperly constructed teeth, short saws, probe-points, and double teeth, all defeat the ends aimed at in a nasal saw.

This instrument has three reversible blades, six inches long, containing three and one-half inches of cutting teeth.

Each blade is designed to overcome special difficulties. They are not hampered by probe-points, and may be rapidly withdrawn and re-entered through the cuts they make when hemorrhage or a change of saw makes it desirable.

I appreciate the generous acknowledgment of Dr. Bosworth in his paper before the Academy of Medicine, which was published in the MEDICAL RECORD, January 29, 1887, in which he stated that I was entitled to priority in the practical use of the nasal saw.

For the above, as well as meritorious reasons, I incorporate in an unaltered state, as one of the elements of this instrument, the saw-blade suggested by Dr. Bosworth, and designate it as Blade No. 1, or the Bosworth saw. This blade consists of perfectly cone-shaped teeth, thirty to the inch. It is made thin, and bending is avoided by dividing the cutting-power equally between both sides of the teeth.

Conditions are encountered where it is desirable to cut only as the saw advances. Blade No. 2 will meet these conditions. This blade would bend were it not for the fact that the teeth are thirty-two to the inch. They rake sufficiently forward to enable the finger to determine the "rake," as the teeth are drawn over it, while on the return stroke the release is complete.

This blade is very satisfactory for the following reasons:

1. With the head firmly placed against a head-rest, the most natural way to cut with a saw is toward the support.

2. In attempting to remove the inferior turbinated bone entire, the spring of its posterior end frequently causes other saws to bend sufficiently to defeat the operation, which difficulty is not experienced with Blade No. 2.

3. Deformities of the septum which terminate at their

posterior end in a delicate ridge will readily catch on teeth which cut on the return, thus springing the septum toward the saw. When this accident occurs a single stroke may cut directly through the septum. These dangers are also obviated by Blade No. 2.

Exceptional conditions may arise where it is desirable to use a saw-blade which cuts on the return stroke.

Blade No. 3. This blade is less frequently useful than either of the others. It can only be used on the turbinated bones in rare cases where Blade No. 2, from some accidental peculiarity in the formation of the bone, cannot be used. Peculiarities in the deformities of the septum may present exceptional cases where this blade will work better than the others. It is, however, liable to spring the septum in an undesirable direction, producing accidents already described. Still the instruments would not be universal without this blade.

I claim that this saw will remove the average bony deformity found in the nose in a more practical and satisfactory manner than any other appliance.

Hoping that operators will not trust the disinfection of a saw to any means less perfect than boiling water, I will leave the further application of the different blades to be determined by their practical experience.

THE OLD AND NEW IODINE BOTTLE.

By GEORGE E. ABBOTT, M.D.,

NEW YORK.

EVERY gynecologist is well aware of how many bad words he is responsible for when the cork of his iodine bottle becomes extracted in his instrument case, destroying his satchel and rusting his fine instruments, or when it upsets on his patients' carpets, leaving its indelible stain as his unfortunate autograph.

After trying all sorts of bottles and stoppers, I have found the following avoids all these annoying accidents.

Fill the bottle selected with absorbent cotton; pour in the tincture iodine to complete saturation; then pour out all that will readily drain away.

One now has plenty of iodine in a very safe form. Any application thrust into the cotton-filled bottle will be immediately saturated, for painting the vagina, or external work. Yet the bottle may be carried safely in satchel, or upset on the carpet, etc.

I hope this method for a "new iodine bottle" may save the instruments of others, and be of as much convenience and saving to them, as it has been to me.

This plan may also be adapted to other medicines as pyroligneous acid, carbolic acid, or any other material used for applications and liable to spill.

19 EAST SIXTY-FIRST STREET.

A UNIVERSAL ASEPTIC JOINT.

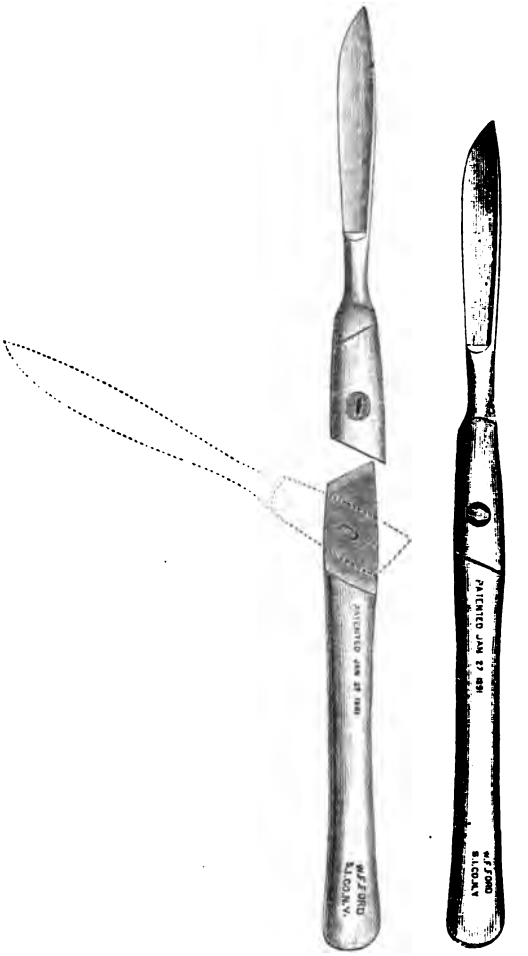
By SIDNEY YANKAUER, MEDICAL STUDENT,

NEW YORK.

MODERN "pocket-case" surgery has long felt the want of aseptic instruments, most notably of the scalpel. In how many cases thoroughly aseptic pocket instruments become a useful desideratum is made evident by the large demand for such instruments, and by the variety exhibited in the shops.

The object of my invention, which has not, I think, been hitherto attained, has been to produce a scalpel which, when put together for use, shall be of the same shape and size as the fixed scalpel, without catches or knobs projecting from its surface, interfering with the operator's fingers, and liable to be displaced; without springs or bolts concealed in septic hollows; a scalpel whose blades shall be readily and quickly changed, which shall be firm and, above all, thoroughly aseptic.

The accompanying cuts show the form of the scalpel. The blade ends in a flange which fits into a correspondingly sunk flange on the handle, and is secured thereto by a "French joint" and a diagonal shoulder. These parts are shaped in such a manner that every portion of the surface of the instrument is accessible to a towel or brush used in cleaning. Grooves and sharp corners having been avoided, adhering blood-clots can be readily removed with a sponge, and when immersed in an antiseptic fluid every part of the surface will be immediately touched by it. It is made of metal and can be boiled without damage.



When changing the blades the necessity of holding or adjusting a third piece is avoided, as the instrument consists of only two parts; and the blade cannot move while being used. Any variety of blades, including even dental and eye instruments, can be put on the same handle. The instrument is manufactured by the W. F. Ford Surgical Instrument Company.

333 EAST FIFTY-EIGHTH STREET.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 11, 1891, *to October* 17, 1891.

TAYLOR, ARTHUR W., Captain and Assistant Surgeon. By direction of the President, will report in person to Colonel John Mendenhall, Second Artillery, president of the Army Retiring Board, at Fort Adams, R. I., for examination by the board.

BEALL, GEORGE T., Captain and Medical Storekeeper. Granted leave of absence for one month.

EWING, CHARLES B., Assistant Surgeon, and Attending Surgeon at St. Louis, Mo. During the absence of Captain George T. Beall, will take charge of the medical purveying depot in that city.

GANDY, CHARLES M., Captain and Assistant Surgeon. Relieved from duty with Army Medical Board, to take effect on its final adjournment, and ordered to Fort Yellowstone, Wyo.

SUTER, WILLIAM N., First Lieutenant and Assistant Surgeon. Relieved from duty at Fort McKinney, Wyo., and ordered to Fort Grant, Ariz. Ter., for duty.

MCVAY, HARLAN E., First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Mackinaw, Mich., and ordered to Fort Wingate, N. M.

BENHAM, ROBERT B., Captain and Assistant Surgeon. Relieved from duty at Fort Hamilton, N. Y., and ordered to Mount Vernon Barracks, Ala., for duty.

GLENNAN, JAMES D., First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Riley, Kan., and ordered to Camp Oklahoma, Oklahoma Ter.

IRELAND, MERRITTE W., First Lieutenant and Assistant Surgeon. Relieved from duty at Jefferson Barracks, Mo., and ordered to Fort Riley, Kan.

Official List of Changes in the Medical Corps of the United States Navy for the week ending October 17, 1891.

MAGRUDER, A. F., Surgeon. Ordered to the Boston.

DIXON, W. S., Surgeon. Detached from the Boston, and granted leave for two months.

MARSTELLER, E. H., Passed Assistant Surgeon. Ordered to special duty at Baltimore, Md.

DRAKE, N. H., Passed Assistant Surgeon. Detached from the Albatross, and granted leave for two months.

WIEBER, F. W. F., Passed Assistant Surgeon. Detached from from the Pensacola, and ordered to the Albatross.

BRADLEY, GEORGE P., Surgeon. Detached from Naval Hospital, Chelsea, Mass., and ordered to the Receiving Ship Wabash.

BRAITHWAIT, F. G., Assistant Surgeon. Detached from the Wabash, and ordered to Naval Hospital, Chelsea, Mass.

BEYER, H. G., Passed Assistant Surgeon. Ordered to Naval Academy, Annapolis, Md.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 17, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	55	12
Scarlet fever	73	5
Cerebro-spinal meningitis	1	1
Measles	37	10
Diphtheria	79	27
Small-pox	0	0
Varicella	0	0
Pertussis	0	3
Erysipelas	0	0
Mumps	0	0
Rötheln	0	0

The Influence of Diet on the Growth of Hair.—In the *British Medical Journal* for July 25th, Dr. E. D. Mapother says: "Several cases of shedding of hair after influenza have confirmed my opinion that diet has much to do with the production and with the cure of symptomatic alopecia. Hair contains five per cent. of sulphur, and its ash twenty per cent. of silicon and ten per cent. of iron and manganese. Solutions of beef, or rather of part of it, starchy mixtures, and even milk, which constitute the diet of patients with influenza and other fevers, cannot supply these elements, and atrophy at the root and falling of hair result. The color and strength of hair in young mammals is not attained so long as milk is their sole food. As to drugs, iron has prompt influence. The foods which most abundantly contain the above-named elements are the various albuminoids and the oat, the ash of that grain yielding twenty-two per cent. of silicon. With care these foods are admissible in the course of febrile diseases, when albumin is the constituent suffering most by the increased metabolism. I have often found a dietary largely composed of oatmeal and brown bread greatly promote the growth of hair, especially when the baldness was preceded by constipation and sluggish capillary circulation. Those races of men who consume most meat are the most hirsute. Again, it is well known in the zoological gardens that carnivorous mammals, birds, and serpents keep their hair, feathers, or cuticle in bad condition unless fed with whole animals, and the egesta contain the cuticular appendages of their prey in a digested or partly digested state.

Common Sense in Medicine.—A celebrated bishop, president of one of the most noted universities of this country, said to his class in divinity: "There are three things necessary for making a successful minister of the Gospel: first, a thorough, liberal education; second, the grace of God; third, common sense. The first may be obtained by earnest, diligent application to study; the second by prayerful intercession at the throne of grace, with a sincere desire for purity of heart; but unless you have the third born in you, may the Lord have mercy on your souls and the souls of your congregation." While common sense is an absolute necessity for any profession or vocation, I know of no one where it is more necessary or important than in the study and practice of medicine. If I were asked to define the term common sense, it might be difficult; but it will be sufficient for our purpose, at the time, to say that it consists in applying rational, simple rules of construction to the various theories of medical science, adopting and practising what can be measured by such rules, and rejecting those that are at plain variance and antagonism with them.—S. C. GORDON, M.D., Portland, Me., in *Boston Medical and Surgical Journal.*

Microbes and Carpets.—In our endeavor to be comfortable in this vale of tears, there is a tendency to overlook the elementary laws of hygiene, and in no respect, perhaps, more so than in the superabundance of curtains and carpets—these non-patented contrivances for hindering the free circulation of fresh air and for stultifying Nature's automatic arrangements for the deodorization and disinfection of our homes. Carpets are always objectionable when they are not designed to permit of easy removal for cleansing purposes without the necessity of turning a room topsy-turvy. In most houses the carpet only comes up once a year, by which time it is as full of microbes and accumulated filth as its interstices will allow. No wonder, then, if our rooms preserve a musty smell in spite of periodical opening of windows and vigorous sweepings, which only displace a portion of the dust to settle promptly elsewhere in some less accessible spot. Fixed carpets are even more objectionable and unwholesome in bed-rooms, for there they absorb the fetid emanations of the night, and soak up various decomposable materials for future use. The ideal would be a polished wooden floor garnished with rugs in sufficient number to give an aspect and feeling of comfort, while admitting of easy exposure to the salutary influence of air and light. Rugs, carpets, and curtains ought to be frequently shaken and hung up in the fresh air if they are to remain sweet, not once a month or year, but twice or thrice a week, if not oftener. At this price only can we hope to deprive confined spaces of their native unwholesomeness, and the sooner housewives lay this maxim to their hearts and act upon it, the better.—*Hospital Gazette.*

Medical Record

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Original Articles.

THE ENLARGED PROSTATE AND ITS OPERATIVE RELIEF.[1]

BY E. L. KEYES, M.D.,

NEW YORK.

MR. PRESIDENT AND FELLOWS OF THE ACADEMY: Surgical progress has moderated, and, we may hope, eventually will do away with, that reign of terror which has been so long maintained by the enlarged prostate; a reign truly of terror for the sufferer, who could look forward to no final relief except that offered him by the scythe of the grim reaper, and a reign of hopeless, helpless incompetency for the surgeon, as far as affording radical relief was concerned.

There is no ancient history of prostatotomy or prostatectomy. The very names are of modern coinage, and the acts they represent have only become justifiable surgical procedures within the last few years. The only notable recent literary productions that I need refer to are the several articles in the London weekly medical journals, which have appeared from time to time, detailing cases and operative methods at the hands of A. F. McGill, of Leeds, whose recent death we all deplore, and to whose investigations and successful operations modern prostatectomy owes its first serious real impetus in England and in this country; to the thorough pathological study of Watson,[2] of Boston, whose theoretical conclusions, however, have since been modified by practical experience, and to the admirable *résumé* of the whole subject, a year ago, at the hands of Belfield,[3] of Chicago, who succeeded in collecting a table of operations, at the hands of various surgeons at home and abroad, representing 133 cases, in 41 of which the prostate was attacked by the perineal route, and in the remainder by suprapubic incision. Lists of cases and single experiences are constantly appearing in the journals, sometimes containing valuable hints, but historically I think Belfield's essay covers the ground, and its appearance less than a year ago renders any new attempt in this direction at my hands a work of supererogation.

It need only be recalled briefly that, up to a few years ago, the prostate had no surgery except the surgery of emergency. Its abscesses were opened, its stones were removed, when detected; it was cut through when the bladder imperiously called for drainage; but this was about all.

Certain enthusiasts and visionary therapeutists, from time to time, then began to appear, advocating possible absorption of the enlarged prostate by the internal use of ergot or interstitial injections of ergotine, its shrinkage by electricity, electrolysis, electro-puncture, or, more notably, the internal electro-prostatotomy of Bottini, who still advocates and practises the method, claiming, up to December, 1890,[4] 57 cases with 2 deaths, 32 cases improved, 12, no benefit. This method is doubtless better than the blind internal median prostatectomy as accomplished by Mercier's emport-pièce, an operation which Gouley, of New York, has unsuccessfully attempted to reintroduce. Then Reginald Harrison, of London, thought he could postpone the evil day and retard the results of enlarged prostate by pressure systematically applied through the urethra with long, olivary, soft bougies. And again, another suggestion of Harrison's, puncture of a large prostatic lobe through the perineum, and the tying in of a solid tube for a long period, was hopefully referred to as a method of producing absorption. Yet none of these resources have gained permanent foothold in the profession.

Meantime at various hands progress was being made. The advantages of vesical drainage in advanced cystitis, advocated and introduced by Willard Parker, of this city, led to a number of operations on old men. A prostatic bar was often cut down, or a big lobe incised, at first without particular design, then as distinctly advocated by Harrison, for the purpose of introducing a tube much larger than the one commonly employed, and for the express purpose of straightening the prostatic canal and lowering its floor. In lateral perineal lithotomy also, long years ago, cases were reported in which the surgeon's forceps accidentally brought away, along with the stone, a large middle lobe, or his finger enucleated out of the lateral incision an interstitial fibro-myoma; and after these operations it is narrated how, to the delight of the sufferer and surprise of the surgeon, the patient, perhaps for years before dependent upon the catheter, had suddenly again become capable in his urinary function and had so remained.

Yet these latter accomplishments were accidents, and did not constitute a surgical method, but out of them undoubtedly arose prostatotomy and prostatectomy—at first perineal, and later, after Peterson had revived the suprapubic route by the more rational approach above the pubic symphysis, where the eye can see and the hand perform much more capable work than through the bloody and straightened perineal channel.

To-day prostatotomy and prostatectomy are accomplished surgical facts and splendid additions to our resources in that class of grave vesical disorders found so often in the best ranks of the community, late in life, in those who use their brains rather than their muscles and lead sedentary lives.

Yet the indications for these operations are not yet fixed, although Belfield's analysis of his tables, and McGill's generalizations, have advanced the decision.

The questions on which I shall ask for discussion to-night, giving of course my own impression after narrating my cases and personal experience, are: 1. When is perineal prostatectomy to be preferred to the suprapubic operation? 2. What condition of prostatic or vesical disease, or both, justifies radical operation, and should it be done early or late? 3. How much of the prostate should be taken away?

Prostatotomy, as an adjunct to vesical drainage, has been so generally recognized as a proper concomitant of the latter operation that its consideration need not detain us; nor need we consider that new form of operation, lateral prostatectomy, performed by dissecting off the rectum from the prostate and peripherally slicing away its lateral lobes without opening either the urethra or bladder. This operation was suggested theoretically, after cadaveric research, by Dittel, last year; but aside from its manifest inability to cope with median prostatic overgrowth, it has been tried and found wanting this year by

[1] Read before the New York Academy of Medicine, October 1, 1891.
[2] Operative Treatment of the Hypertrophied Prostate. Boston, 1888.
[3] Operations on the Enlarged Prostate, American Journal of the Medical Sciences, November, 1890.
[4] Edinburgh Medical Journal, March, 1891.

Küster,[1] who reports three successful cases, stating that the operative manœuvre was not difficult, the patients were contented with the operative effect and could urinate at will, but that in each case a small urinary perineal fistula was left behind. My cases, 11 in number, 3 perineal and 8 suprapubic, are briefly as follows:

Perineal Cases. — Case I. — X——, aged fifty-four. Uses catheter every two or three hours and relies upon it; has practically done so for several years; median hypertrophy suspected; stone found. Perineal incision, April, 1874. Phosphatic stone removed; small third lobe twisted off. Voluntary urination returned and remained until death, several years later.

Case II.—X——, aged sixty-five. Painful and very frequent urination night and day. Catheter finds residual urine, but its use fails to afford relief to the straining and dribbling, which is almost incessant. In February, 1883, perineal incision and forcible removal by twisting of an outstanding section of the right lateral lobe as large as the last joint of the thumb, weighing eighty grains. Much relief followed, but no cure. Intervals increased to between three and four hours, night and day. Bladder does not empty itself entirely. Patient is a drinker.

Case III.—X——, aged sixty-six. Recurrent violent hæmaturia; moderate peripheral prostatic enlargement, a little residual urine, prostatic bar; blood demonstrated by examination to come from the prostate and just in front of it. Perineal section in June, 1891; third lobe upon the bar incised in V-shape and twisted away. Its weight is thirty-four grains. Result, September, 1891: Health and strength excellent. Urination free. No recurrence of hæmaturia.

These three cases, and another under my charge, in which, however, my assistant, Dr. Fuller, did the operating, all recovered and were successful in securing relief of pain and freedom of urination—in Case II. voluntary urination until he died, several years later; in Case I., where the catheter had been solely relied upon for four years a cure of persistently recurring profuse hemorrhage; in Case III., and the right of way to voluntary urination in Dr. Fuller's case. My reasons for selecting the perineal route were, in the first two, non-acquaintance with the suprapubic method at the time. Had I the cases to-day I should attack both of them above the bone. In the third case the old gentleman was feeble, bled profusely, and I believed I had to do only with moderate peripheral hypertrophy and a granulating bleeding bar, from which I expected to take a V-shaped piece. I found a small projective lobe along with the bar, and removed the lobe by the V-shaped incision. In the fourth case there was perineal stricture as a complication, and the entire operation was done through the perineum.

The perineal operation, it seems to me in looking back over the cases, is suitable for election only under three circumstances: 1. Great feebleness of the patient where the main indication is to get drainage and save life, and in which the prostate is not very hard and not very large in its lateral lobes. Here drainage can be well borne, as a rule, through the perineum, and with a moderately long finger a projecting lobe, median or lateral, may be made out, unless the patient be fat and the perineum deep. When such lobe can be located with a Blizzard knife inserted flat upon the finger, a converging incision into the prostatic substance may be made in V-shape on each side of the offending projection, and then the latter may be wrenched away with long-curved forceps.

This was the method I adopted in two cases. In the other I simply twisted off a largish pedunculated third lobe. All the patients were thin and their bladders easily reached by the finger through the perineal incision.

I think in future, in any similar cases, I shall pass a double-woven silk ligature over the projections by means of these long-curved dressing-forceps with holes drilled near the tips of the blades, which I have had made for this purpose, but have thus far only used through an incision above the bone. I believe that with such an instrument, after a V-shaped incision had been made, including the offending lobe, or even a V-shaped piece of the bar, a double silk ligature could be placed and a small écraseur worked, with the forceps still holding the ligature in place, until the latter had embedded itself well into the prostatic tissues; then the dressing-forceps and écraseur could be removed and the latter reapplied upon the same ligature, held in place by their embedment; and I think that such a method of removal will be better than the rougher tearing out process that must otherwise be resorted to, in order to get the V-shaped segment away. Such tearing brings away sometimes too much tissue, as a long unnecessary strip of mucous membrane.

The V-shaped incision cannot be very accurately made at the bottom of the perineal wound. It cannot in any hands be accurately carried to a point, and some tearing is necessary.

I used this forceps to apply ligature in my third suprapubic case. It worked admirably, except that one of the silk strands gave way. The fibrous enclosing membrane, and I judge sometimes also the prostatic substance, is too hard to be cut through by silk, and I intend trying flexible steel wire through the perforated forceps upon my next case.

Deep prostates and very large, hard, lateral lobes, if the prostatic tissue be very dense, as it may well be, are not suitable sometimes even for simple drainage, prostatotomy, or much less prostatectomy by the perineal route. I have seen the tube partly collapsed or even squeezed out by the clasping action of two large-sized lateral lobes. These cases, I believe, should be approached—even if it be only for simple drainage, the patient's condition precluding more radical measures—they should be approached, I repeat, by the suprapubic and not the perineal route.

Suprapubic Prostatectomies.—Case I.—X——, aged sixty-five. Condition deplorable; constant pain; urination at intervals of two hours day and night; urine full of blood, albumin, and casts. Vesical atony with five ounces residual urine; both lateral lobes large and hard, small lateral internal projecting lobe; small phosphatic stone. Operation, September 15, 1890. Stone removed and small projecting lateral growth snipped away with curved scissors. Attempt was then made to enucleate the large lateral lobes with the finger, but it was impossible. Neither the finger nor the curved scissors could make the least impression on the dense fibrous mass. The finger was passed under the mucous membrane of the prostatic sinus, and externally under the prostatic fibrous sheath, but by no effort could any portion of the dense mass be loosened or torn away. I then thought of the rongeur, and always carried it afterward, but I did not have one with me, and was therefore obliged simply to cut away the soft mucous covering surrounding the vesical orifice, and to mince the edges and bar between the lobes by repeated wrappings with the scissors points. The operation was therefore technically unsatisfactory, in that the dense large lobes were left about as big as before the operation.

Result, a year later, September, 1891: Voluntary urination without pain, vast improvement in general health, catheter never necessary. This doubtless due to the removal of the outstanding lobe, but the five ounces atony persists as before and makes urination frequent, unless the catheter be used occasionally to drain away the residuum. In short, the patient is like many another with atony who has never been operated on. The misfortune here is that not having a rongeur I could not take out enough of the bar or of the dense lateral lobes to do the operation properly.

Case II.—X—— , aged seventy. Relies entirely upon catheter, which has frequently to be passed, but the passage is attended by difficulty and pain. He had been divulsed about a year before, and an enormous sound introduced, without advantage, by his physician. No chill or disturbance followed this operation. The cystoscope

[1] Munchener Med. Woch., April 14, 1891.

showed a small third lobe. The urine was clear, no blood, no pus, no albumin, no casts, and an operation was urgently demanded on account of local distress. I cut this gentleman in March, 1891, and pinched off his small third lobe with the rongeur.

Result.—Half an hour after the operation he had a chill, and practically a total suppression, from which he never rallied. I consider that the result was one of those unusual cases of pernicious urinary fever. It was, of all the prostatectomies I have done, the most trifling in extent, and the result was more unexpected than if it had occurred in any of the other cases.

CASE III.—X——, aged sixty-six. Atony; eight ounces of residual urine. Patient not dependent on catheter, but not at all relieved by it. Urinates every two hours by day, and twice at night. Prostatic sinus in free suppuration. Prostate peripherally large and possessed of a third lobe as big as a plum. All local measures unavailing. Moderate local hemorrhages occur constantly; life intolerable, and operation demanded.

April 16, 1891, I cut this gentleman, and removed his third lobe with the wire écraseur. I then snipped away the collar-like, bulging, urethral prostatic orifice, and with the finger easily broke down the soft prostate, shelling out two hundred and forty-nine grains of prostatic substance and a number of rounded distinct fibro-myomata, one of which was polypoid and was scraped out of the prostatic sinus, being soft and easily removed by the finger-nail. I had no occasion to use the rongeur.

Result.—In three weeks the patient was up, with the wound healed, and he left his house on the twenty-third day.

Examined in September, 1891. He is perfectly well, except for a trace of pus still in the first urinary gush, but disappearing. He empties his bladder in a full stream at an interval of between three and four hours. His atony has disappeared, for a catheter passed after voluntary urination gets nothing.

CASE IV.—X——, aged fifty-nine. Has a large stone and median hypertrophy; relies on the catheter, which he passes sometimes hourly, then at longer intervals. Has been an invalid about four years, the last one being passed in bed. Urine like bean soup, thick with pus containing blood, casts, and albumin without stint. The patient was ready to die, and accepted operation without a murmur.

I cut him early in July, 1891, and removed a stone as large as a hen's egg, weighing seven hundred and forty grains. The third lobe was as big as the last joint of the thumb. I placed a double silk ligature over it with the dressing-forceps having dulled ends, and snared it off. Then I cut out a deep piece from the place where the stump grew, lowering the prostatic outlet considerably. The bladder was sacculated greatly.

This patient recovered promptly, and now has given up the catheter, urinates in a full stream, holds his urine from five to seven hours, and is a well man. He has gained fifty pounds in three months.

I operated on this gentleman more out of compassion for his sufferings than in the hope of saving him. I feared urinary fever and suppressions, and gave him, therefore, ten grains of diuretin every few hours after his operation. He had no chill, no suppression, a result so agreeable and so striking that I could not but attach some possible influence for good to the diuretin. I have used it in every major operation upon the bladder or urethra since this case, twelve in number, and have never had yet a chill or suppression since I began to use it, three months ago, although some of my cases have been desperately severe; there have been six prostatectomies, one suprapubic lithotomy in a fat old man, an intense diabetic, who got well, although his heart failed and his liver stopped for several days after the operation, yet the urine welled up as limpid as a spring through it all; one suprapubic drainage for vesical cancer; three perineal urethrotomies with guide, and two very severe ones without guide; one litholopaxy. One case only died, my last prostatectomy, at the end of the second week, but he died by exhaustion with a weak heart and an unhealthy wound. He had no urinary fever, and his kidneys did their work freely and uninterruptedly until his death.

CASE V.—X——, aged sixty-six. Catheter life for six years. When I saw him he was using it every two hours. He was wasted to a shadow, with eczematous eyes and pustules over his body, putrid urine full of casts, albumin, blood, and pus; no appetite, dry tongue; manifestly in septic depression. I washed and disinfected him, got him on milk diet, and did all I could, with little effect except in reducing his sepsis and curing his pustules, as well as sweetening the urine. He lost twenty pounds during the winter. I cut him above the bone, July 17, 1891, and gave him plenty of diuretin, with salol, and constant vesical irrigation. I took out stones weighing sixty-three grains, and prostatic third lobe, and bar weighing three hundred and seven grains. There was no bad symptom. Recovery was uninterrupted but slow. The patient is now in the country, and has not answered my letter asking about voluntary urination. His bladder was completely atonied, and I shall investigate this point with interest. Whether his voluntary urination returns or not, his life was unquestionably saved, and in a double sense, because when I hesitated to operate upon him he told me calmly that if I declined to attempt to help him he intended to resort to the Roman remedy.

CASE VI.—X——, aged sixty-five. Occasionally can urinate, but very often not at all; retention habitual and catheter constantly resorted to. Cannot sit for pain. His whole life is given up to efforts at urination; gets up every hour and a half at night. I cut this patient suprapubically on August 18, 1891. I thought before operating that he had prostatic stone, because a finger in the rectum made out a projecting, very dense, hard lump, bulging below his right prostatic lobe, and an acupressure needle passed into this lump through the rectum struck calcareous material. I found a small, horse-collar enlargement, with moderate bar and conical third lobe upon it. These I easily removed with scissors and rongeur. Then with the needle I demonstrated that the enlarged bulging right lobe was partly degenerated in a calcareous way—gritting as the needle entered it in many places—but that there was no true prostatic stone. I easily tore away with the finger and nipped away with the rongeur about half this right lobe, until I passed beyond the lateral bulge which it made within the prostatic sinus. The material removed weighs one hundred and sixteen grains. This patient was a little burned by using water too hot for the purpose to avert hemorrhages, and his recovery was retarded thereby, but he had no bad symptoms except loss of appetite and depression. The wound is not quite closed yet, although the patient has returned to his home in a neighboring city. Whether he can dispense with the catheter, therefore, I cannot now decide.

CASE VII.—X——, aged sixty. In constant pain; urinates every two hours a day, four times at night. Has a minute calculus in the prostatic sinus. This I detect with the soft catheter while testing for atony, and I push it backward into the bladder. I then search with metal searcher and fail to detect the calculus. After the search, which showed third lobe and bar, so much disturbance followed that I determined to cut at once, which I did August 31st, above the bone, finding a gr. v. calculus, a prostatic bar, and large bulging lateral lobes, with collar-like vesical orifice—weight sixty-three grains.[1]

In this case there was a little after inflammation of the space of Rhetzius, due to the use of a deep suture in the second week to draw the granulating surfaces together. The patient went home in his fourth week, but as the wound is still open I cannot report on the power of the bladder to empty itself absolutely.[1]

CASE VIII.—X——, aged sixty one. In serious trouble; for eight years dependent on the catheter night and day; condition deplorable; constant pain and distress. This

[1] Both these patients reported October 25th. Both empty the bladder entirely, and are practically sound and free from pain.

gentleman I cut September 10th, removing four hundred and sixty-seven grains of stone, and one hundred and thirty-nine of prostate. He acted badly under the chloroform, which had to be used sparingly. He had no chill or suppression, no urinary fever or pyelitis, but his pulse intermitted greatly after the operation; he got hiccough at once, and obstinate constipation; his wound became and remained gray, never granulating; his temperature went up, then small shreddy sloughs appeared in the wound; his tongue became dry, his heart faltered, and he died on the fifteenth day.

Results.—Out of my eight suprapubic cases two died, one a most promising case, the last a very grave one. After Case II. all took diuretin freely, and salol, and in no case was there urinary fever, suppression, or pyelitis. Antiseptic irrigation and the usual precautions were always followed. In age the patients averaged sixty-four. The cases were not selected, except that all mild cases were refused operation and no desperate case was denied the chance, and of these several were so nearly dead when taken in hand that the operation seemed more like the short horn of a dilemma than an operation of choice or expediency. Suprapubic prostatectomy upon cases of this nature is of the first order in magnitude and gravity. In my opinion it far outranks nephrotomy, or even nephrectomy, in gravity. Even in the milder (seemingly milder) cases it is a grave resource, as my second case demonstrates, and I cannot agree with Belfield that it is proper to attack cases early, when their symptoms are not grave, with an operation the best statistics of which yield a mortality of $13\frac{6}{10}$ per cent.—McGill's statistics, 24 cases, show a mortality of sixteen per cent.—when the well-known chances of life with use of the catheter are so high, and when cases are on record like the German who lived forty-five years urinating only through a catheter, and Thompson's case of many thousands of insertions. I have had a case of twenty years' duration, and when the catheter is well borne an individual using it is not much worse off than a patient with hernia, who has to wear a truss. To suggest to such a patient an operation in his early career, with a mortality of at the very best one in eight, is like offering to kill a mosquito on a man's nose with a club. It is correct so far as the mosquito is concerned, but may be disastrous otherwise.

As to the power of restoring its contractibility to an atonied organ, my statistics lack value on account of the recent date of several of my operations. I should not have read this paper until a year from now, except on account of your President's solicitations.

Belfield's tables make, in 88 cases, 29, or one-third, restored to voluntary urination. Of these 26 were cases in which there was also calculus. In my eight suprapubic cases two died; in three of the others, although all are up and out, the wound is not quite healed; of the three remaining, Case I. was insufficiently operated on and his atony remains, although urination is natural and voluntary up to that point. Case III. had eight ounces of residuum and now empties his bladder completely. Case IV. also has entirely dispensed with the catheter and is functionally well.

Whether the others will lose their atony and empty their bladders entirely without catheter, I cannot now say. Of my three perineal cases, two emptied their bladders entirely after operation, one did not. Dr. Fuller's case still has the perineal wound.

Varieties in Prostatic Texture.—An important lesson taught by my cases is the variety in texture of the enlarged prostate. McGill states, and all operators advise, that the curved scissors be used first and then the prostate be dug out with the finger. Acting on this I operated imperfectly on my first case. Scissors would not cut it, except to cut away the projecting lobe. I loosened around it, but could not possibly dig out a shred with the finger or any instrument I had, so hard and tough was the prostatic substance. This suggested to me the rongeur, and with it I had great comfort. I am having some instruments constructed to cut out pieces of varying size and width; until now I have nipped and twisted away pieces with an ordinary rongeur, or crushed them with its cutting edge and then removed them with curved scissors.

Many prostates are soft and may be easily gouged out with the finger, both the soft ones, those containing interstitial tumors like Case III., and the very hard, calcified ones like Case VI. This could be torn easily by the finger into pieces of suitable size for removal.

The outstanding lobes can be removed with the wire or double silk snare (except that the enclosing membrane is sometimes tough and breaks the silk), or with galvanocautery or the tonsillotome, as Weir has suggested.

Salol and diuretin are the only medicines I use, with milk diet and Poland water. I have long since given up quinine in urethral and bladder surgery.

Hot-water irrigation sometimes stops hemorrhage, sometimes not. In the latter instance iodoform gauze may be stuffed down into the wound, or drawn like a big rosette into the urethro-vesical orifice upon a doubled silk thread passed through the urethra, and knotted over a pad at the meatus.

I have not used Albarran's tubes, but with their use the bladder might be packed antiseptically, and treated like an outside wound. Albarran and Lluria,[1] at the Society of Biology, July 4, 1891, report the successful experimenting of this retained urethral catheter upon a dog, and give Guyon's case of the young woman who wore them satisfactorily, after suprapubic section, for four days. The catheters are of soft rubber, made by Mathieu, and have a soft elastic bulb at the extremity which expands within the ureter—after introduction upon a stylet—and thus retains the tube.

Poirier, at this meeting, objected to injection of the ureters on the ground that substances so thrown in reached the renal vein without rupture of kidney-tissue.

I prefer the vertical to the transverse incision always, and in this operation, which yields so much hemorrhage, I prefer the open dressing. My method is to use one or two buried catgut sutures to attach the recti muscles, the yellow fat below the peritoneum, and the bladder-wall above its incision into one finely knotted mass, then to carry one end of the silk loop, on each side, that has been supporting the bladder during the operation, through the rectus on either side, and again to knot it, and then tie the two loops together under considerable tension, with a string passed across the sacrum, so as to hold the loops between the pelvic crest and the great trochanter on either side. This loop goes in over the skin through the rectus, through the bladder, thence up over the skin on either side, and the tension of the two keeps the wound constantly open. Continuous irrigation with hot boracic fluid may then be easily maintained night and day by means of an elevated jar of fluid and siphon-tube.

In final dressing, after some days, I find great advantage in keeping the patient dry from the use of the flat abdominal sponge constantly changed.

Amount of Tissue to be Removed.—A point that remains is the extent of tissue that should be removed. Belfield cites the notable failures that have occurred in his own and other hands in accomplishing the result aimed at, namely, voluntary urination—and perhaps also cure of atony may be added as an aim—on account of the physical impossibility of getting out a hard obstructive growth or interstitial tumor not infrequently found growing in the floor of the prostatic sinus, and not to be reached by the finger, or, as he thinks, in any way except by a combined perineal incision. I believe that with the rongeur or a similar instrument this objection no longer holds. The main object of the operation is to cut away the bar and depress the bladder opening into the prostate, so that the bas-fond may drain, and there may be no longer a suppurating pouch left the shut-in prostatic sinus.

[1] La Médecine Moderne, July 9, 1891.

This lowering of the vesical outlet and picking out hard growths in the floor or sides of the prostatic sinus, can be perfectly well done with the rongeur, but not with any other instrument yet in use. If all such obstacles are thoroughly done away with, the bladder outlet properly lowered, and the gross posterior bulk of the lateral lobes removed, I think it better for chances of life, and as good for chances of urination, to leave the greater anterior part of the prostate unmolested; and this can all be done above the pubis without any extra perineal incision.

The quantity of tissue removed, however, does not seem to influence mortality. In my most rapidly fatal case a piece as big as a pea was removed. My greatest amount was 307 grains in Case V., and recovery was uninterrupted, although the case was desperate and one of long standing.

The three greatest amounts removed that I know of are four ounces by Buckston Brown, in a man aged eighty-seven, who recovered, and something over two ounces each in two cases by McGill, one of which died.

The only argument in favor of early operation is that the longer the patients have suffered the greater seems to be the mortality, as J. William White, of Philadelphia, has emphasized; but this was to be expected, as such patients are older and more broken in every respect.

My conclusions are:

1. Prostatectomy is justifiable, and does what nothing else can.

2. The perineal operation is moderately less severe, but decidedly less reliable than the supra-pubic; it should rarely be preferred, unless there be urethral complications. In very feeble men it may still be elected.

3. The operation is not justifiable with present statistics if the patient can be comfortable in catheter life.

4. No physical condition of the parts or of the patient, short of a practically moribund state, contra-indicates operation. By it in desperate cases life is often actually saved, although the operation is a grave one and its mortality high.

5. With the rongeur—better than any instrument—the bladder outlet can be lowered, and polypoid or interstitial growths jutting into the prostatic sinus can be removed, and these points are more essential to a successful operation than is the taking away of a large portion of the prostatic bulk. The instrument next in value is the curved scissors, but the skilled finger is most important of all. Most of the work has to be done by the aid of touch, as the bleeding soon becomes free and renders visual inspection impossible.

6. Diuretin, perhaps, is of value when the kidneys are damaged. It certainly does no harm.

7. Chloroform alone, in my opinion, should be used as an anæsthetic for the kidneys' sake.

109 East Thirty-fourth Street, September 30, 1891.

THE INFLUENCE OF MATERNAL IMPRESSIONS UPON THE FŒTUS.

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Although the belief in the influence of the maternal impressions upon the fœtus, which has existed long ago among all people, has found, and still finds, strong support from the greatest philosophers and most celebrated physicians, the subject has not yet found a proper place in science, being relegated to the region of delusions and fantastic fables. In the first place, the general belief in the influence of maternal impressions upon the fœtus found many opponents in the beginning of the eighteenth century, who began to prove that as between the mother and fœtus there exists no nervous connection; all such cases, principally collected by Sachs, Schroeck, Haller, and others, were either merely accidental or inherited. Afterward, however, the German writers made far weightier objection, namely, that every deformity, as the result of embryological defect, must be developed during a certain period of time, and for this reason cannot be the result of a momentary impression acting on the mind of the pregnant woman.

Nevertheless there have appeared from time to time, especially in the English and American papers, descriptions of cases seeming to prove the possibility of such influence of maternal impressions upon the fœtus. And what still more deserves our attention is that many of these descriptions are given by men who are known as conscientious investigators and critical observers. It is sufficient to mention the works of W. S. Lowman,[1] T. Wetherby,[2] Thomas Hedman,[3] and many others, in which this subject has again been raised with great carefulness and criticism, and therefore we cannot yet regard this interesting and enigmatic subject as closed.

It is to be understood that by maternal impressions we do not mean the defects of development manifested by an arrest of the organism in the beginning of the embryolog.c state, but rather cases in which the psychical impressions are stamped on the development of the fœtus.

The following case, observed by myself, directed my attention to this question:

The wife of one of my friends, being in the second month of pregnancy, was frightened by the wound of her little son, four years of age, which he received on the forehead from a fall against an edge of a clothes-press. The wound, however, was not dangerous, but it alarmed the mother. In due course she was delivered of a female child, who had in the same place a red scar, showing the exact resemblance of that of her brother's.

Professor L. Neugebauer described, in a Polish paper,[4] the following two cases, which I will cite in his own words: "In the Milan Anatomical Museum there is a specimen of a female child, who died at the age of three months. The skin of this child, from the head to the navel, is black-brown, and covered with hairs, and besides that there are spots of the same color in other places. It is curious that in the brain also are some dark spots. The mother of this child related to Professor Billi, previous to the birth of the child, and he personally communicated the facts to me, that she had once, while pregnant, looked intently for some time at a monkey that was being exhibited in the street." I must add that the monkey was dressed in short trousers, leaving his upper parts bare. "I, on my part," continues Professor Neugebauer,[5] do not doubt the possibility of the influence of maternal impressions upon the fœtus; my own son serves me as a proof of it. I once hurt my left leg on the inside by a thorn while bathing in a river. On my return home I dressed the wound. At the moment when I was cleaning it my wife, who was then in the first month of pregnancy, entered and was frightened by it. The boy, born in due course, has, in the same place where I have the scar resulting from the wound, a mark of the same shape and color."

Dr. Edward Garraway[6] relates the following very interesting case: "A lady of refined taste was in the habit of sitting before a group of statuary, with one little figure of which she was greatly enamored. This was a Cupid reposing, his cheek resting on the back of his hand. When her baby was born his resemblance in form and feature to the little Cupid was at once striking. On seeing him the next day in his cradle, I perceived he had assumed the precise attitude of the statuette—the cheek upon the back of the hand; and this position he invariably, and, of course, involuntarily, adopted during sleep, not only throughout infancy, but up to advanced boyhood, when I lost sight of him."

[1] The Medical Record, August 17, 1889.
[2] Loc. cit., September 21, 1889.
[3] Loc. cit., No. 1, 1887.
[4] Tygodnik Lekarski, 1863, p. 81.
[5] Loc. cit., and also in his Midwifery, in the Polish language, pp. 480–482. Warsaw, 1874.
[6] British Medical Journal, 1886, vol. i., p. 287.

Dr. James Brydon [1] relates the following case occurring in his practice: "A short time ago I attended Mrs. C—— during her second confinement. After the child was born, the common question, Is it all right? was asked by the mother, and answered in the affirmative. Presently the nurse discovered that the great toe of the right foot was entirely wanting. The mother then related that, when she was in her fourth month of pregnancy, she dreamed that a rat had bitten off her corresponding toe; and so vivid was the impression that she awoke screaming, and narrated the cause of her fright to her husband, who corroborated her statement. The veracity of both parties is unimpeachable."

The following characteristic case is related by Charles F. Williamson: [2] "Mrs. D——, aged thirty, multipara, when four months pregnant, was opening the door of a shed in her garden, when a black-and-white collie dog pushed against her and ran away, having been shut up previously by her husband without her being cognizant of the fact. This made a deep impression on her at the time, and she continually, even to the time of her confinement, told her husband that her child would have a mole or be born disfigured in some way. So much did this prey upon her mind that her appetite failed, and she could not bear the sight of any animal, whether out of doors or inside the house. On September 26th I was sent for, and found a footling presentation, the right foot presenting. . . . I may say that when the right foot and leg were born there was great difficulty in keeping them warm, in spite of warm flannels. On examining the child the whole of the right thigh was covered by a mole from the groin to the knee, and entirely encircling the limb. The color was shiny black, and studded with long white hairs. There was another mole situated over the spine of the left scapula."

"About three weeks ago," writes John T. Hislop, [3] "I was called into the country to attend Mrs. M—— in her confinement. When I arrived at the house I found that the child had been born some considerable time, but the placenta had not yet been expelled. After removing this latter, I was shown the child, a well-developed male, which had evidently reached the full term, and could not have been dead many hours. The child's head was the extraordinary part, and exactly resembled a miniature cow's head. The occipital bone was entirely absent, the parietal bones only slightly developed; the eyes were placed at the top of the frontal bone, which was quite flat, and each of the superior angles of which was twisted into a rudimentary horn. The striking resemblance to, or, more correctly speaking, almost exact imitation of, a cow's head, was unmistakable. When, a few days afterward, I was able to speak to the mother on the subject, she told me how she had been terrified by a bullock when walking home from market during the second month of her pregnancy."

Dr. Charles W. Chapman [4] is of opinion that the whole available material we possess should be collected and definite conclusions drawn from it. He states the following case: "A lady, in comfortable circumstances, aged twenty-four, and of no marked emotional temperament, engaged me early in 1883 for her second confinement. The patient was exceptionally robust, and her little girl, then nearly two years of age, was in every respect healthy. The patient informed me that early in her pregnancy she had seen a man begging, whose arms and legs were all doubled up. The sight gave her a shock at the time, but she hoped no untoward effect would follow. I, of course, endorsed her hopeful view of her case, and urged her not to trouble herself any further. In due course I was summoned, and on examination found a shoulder presenting. The time of day being that in which all my medical neighbors would be out, I persuaded the patient to allow me to turn without giving chloroform. The operation was performed with some difficulty. The child was an anencephalous monster. The extremities were rigidly flexed, the feet almost sole to sole, and the fingers firmly clenched. The child could only have been dead a few hours. The mother was, of course, desirous of seeing her child, but I dissuaded her from this by assuring her that although this child was imperfect, there was no reason why she should not be more fortunate next time. The patient made a good recovery, and shortly afterward changed her residence. Four months later she became again pregnant, and unfortunately she frequently passed a man, who was a partial cripple, living in the same road. This circumstance revived the patient's fears; but she did not appear to be much depressed, and she was quite hopeful regarding her coming infant. The confinement took place at full term, and presented precisely the same difficulties as on the previous occasion. The child also was a counterpart of the last one, with the exception of the head, which was normal. After an interval of a few months my patient became again pregnant, and this time she was delivered of a strong and undeformed child."

It is impossible to cite all the cases published in the last few years. I have limited myself to the citation of some that seem to me to be more characteristic. I may add that the same facts are observed in the case of animals. Dr. Gray,[1] curator of the British Museum, showed at a meeting of the London Zoölogical Society, on February 24, 1864, a chicken, whose bill and feet perfectly resembled those of a parrot. These monsters were very often born in his hen house, and he explained them by the fright of the hen, caused by the cries of the parrot when the hen came near its cage.

My father, with whom I on one occasion spoke on the subject of maternal impressions, related to me that on his farm a peasant had a horse, whose face greatly resembled that of a cow's. As I was interested in this question, I took the first opportunity to see the animal, and must acknowledge that its face presented a striking resemblance to a cow, only the horns were wanting. The peasant was known in the whole village as the owner of the horse with a cow's head. I may state that in Poland the peasants keep the horses together with the cattle in the same stable.

Can we, in view of so many facts, affirm that maternal impressions have no influence upon the fœtus? To repudiate and deny so many facts, because they are in contradiction with the universally accepted opinion, is to affirm, in one's conceit, that all laws that govern nature are discovered and known.

It is true that no nervous connection exists between the mother and the fœtus, but does the absence of it exclude the possibility of the maternal impressions upon the fœtus?

If we only consider the following facts, we have no reason to deny the influence of maternal impressions: 1, That every idea, every impression, must be materialized, or, in other words, it is impossible without the work of nervous tissue; 2, that there exist many phenomena which cannot be explained by direct connection with the nerves, as, for instance, the action of one mind upon another at a distance; 3, that a certain impression or idea can influence the function of our tissues or organs, as, for instance, fear can produce many disorders in our organism, even the thought of a lemon can produce abundant secretion of saliva, etc. Besides that, the modern psychologists and physiologists believe that the fœtus, long before entering the world, is conscious of pain and physical satisfaction, and also gives expression to many impressions.[2] These affirmations of psychologists are

[1] British Medical Journal, 1886, vol. i., p. 670.
[2] The Lancet, October 11, 1890, p. 803.
[3] Ibid., November 1, 1890, p. 957.
[4] Ibid., October 18, 1890, p. 853.

[1] Quoted by Thomas Stedman, in the article The Influence of Maternal Impressions in the Etiology of Congenital Deformities, the MEDICAL RECORD, 1887, No. 1.
[2] Bernard Perez: La Psychologie de l'Enfant. Les trois premières années de l'enfant, 4e édition, pp. 1-12; and also Ribot: L'Hérédité, p. 315, 1ere édition.

founded upon Luy's [1] experiments, which prove that the placing of the cold hand upon the walls of the abdomen immediately produces movements of the fœtus, and it is well known that the body is not a good conductor of warmth. It is also known that the light suddenly thrown into the eye of the mother, as well as a sudden noise, produces violent convulsive movements of the fœtus,[2] and Perez [3] states as a fact that a certain woman, experiencing great fear three months before the birth of her child, felt convulsive movements of the fœtus, and the child lived only a few months after birth, having very often, and without any external cause, sudden convulsive fits.

These are facts, proving that the fœtus may unconsciously, but yet truly, express maternal impressions. But how the external or internal world acts upon the souls, half-formed and perhaps already possessing certain indistinct self-knowledge, is a very hard question, which cannot be quickly solved. According to Luys,[4] the nervous cells are, during a certain time, in a state of vibration, produced by external impulses or impressions. If we agree with this writer, the question ceases to be obscure to us, or to exist in the region of imagination or fables. Besides that, it is known that deviation of the nervous fibre, during development, of even one-tenth of a millimetre will influence powerfully the structure and development of certain organs.[5] In consequence of this, an impression, be it continuous or accidental, received during fœtal life, influences the development of the brain and individual organs; therefore only one strong momentary impression, even in a dream, received by the mother and transmitted by her, is sufficient to produce afterward a run of changes in the development of the fœtus.[6]

On my part I am thoroughly convinced that different psychical and physical defects, which till now have been ascribed to inheritance, are in most cases the results of moral impressions derived from the surroundings of the mother. Naturally not every woman bears children with traces of her impressions. If it were so—as Buffon remarked—what strange creatures and strange characters we would see then. Nature did not furnish every man with the same susceptibility of nerves, and therefore the impressions have not the same effect upon everyone. We must, however, admit that strong and lasting impressions must undoubtedly have influence upon the fœtus.

It is a well-known fact that with animals the first male decides the influence upon the further offspring, so that the young ones descending from other fathers always show the traces of the first father.[7] Probably the first male produces strong impression on the female that lasts very long. With plants these facts have not been observed, as Mr. Knight [8] asserts. Probably also in the moral impressions of the woman lies the key to the secret why children of the same parents often entirely differ in character, temperament, capacities, appearance, etc. This difference, which can often be met with, stands in contradiction to the generally accepted theory of inheritance.

WARSAW, 87 KRAKOWSKIE PRZEDMIESCIE.

CONSERVATISM.

BY C. B. MEDING, M.D.,

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CONSERVATISM is a word of Latin origin, from *con* and *servo*—to keep, to guard, to preserve; popularly it means opposition to change, which is an ambiguous phrase, meaning either stubbornness, obstinacy, and eventually destruction, or, preference for the existing state. My paper is directed, then, first, against the use of the word conservatism, when the qualities carefulness or moderation are meant; second, against the use of the word conservatism in any sense as applied to medicine; third, for the use of the words carefulness and moderation, or their synonyms, for the reason that we are not in a position, as regards any single system or measure, to claim ordinary perfectness; and I hold that conservatism can only be of service in those arts, sciences, and trades where for long periods of time no radical change has been instituted.

There is no law so utterly without exception, there is no truth more absolute, than that which states change is universal. We cannot in any single field of observation or research find progress the result of immobility, and, more than this, let it be noted, the standstill is by comparison always retrogression. I believe progression to be the constant aim of nature. I have frequently been impressed with the fact that one's unspoken thought of to day is to-morrow spoken by another; you can all bear witness to the many so called coincidences of daily life; and this I consider the proof irrefragable of a rational supreme Being, that while it is permitted man to keep, or to give as original, the conclusions of his mental operations, yet, if he withhold, those thoughts are in no wise lost, but from other minds and lips will come forth as necessary to the knowledge of the age.

It is necessary to admit that progress may be impeded, and the admission bespeaks supreme mercy. Man possesses powers of obstruction, though not of destruction. It is too well known to need proof, however, that the most stubborn obstructions are made by the ignorant, since the objections of ignorance cannot be answered. Fools will ask questions sages cannot answer, and such questions are stubborn and harmful, because disregard of them is sure to be styled inability, while objections, unbiased, reasonable, and based on honest investigation, are healthful.

Every science and art seems to have had periods of advance, rest, and relapse; more than this, some seem to have reached, speaking temporally, perfection. For instance, in painting and sculpture the masterpieces of Angelo, Raphael, Titian, Correggio, Guido, Pissano, Rubens have never been surpassed, if equalled. In architecture the Ionic, Doric, Corinthian, Tuscan, Composite, Gothic, Norman, etc., are the models, and novelties consist mainly in new combinations. In music, Beethoven, Mozart, Bach, Haydn, Handel seem to have given every possible principle and style, leaving examples in every class which have not been excelled. Now, in each of the above we find the advance and perfection the result of an overwhelming interest, an exaggerated fashion, sometimes amounting to a mania. For example, the Church of Rome, in its zenith of wealth and power, became a vast building association, consequently a very nursery of the building genius. Next, these palatial temples needed adornment, and Rome became the mother of art; the world sent forth her geniuses, and to-day we call the works of that period masterpieces. Philosophy has lived almost entirely in the systems of Aristotle and Bacon; and mathematics and logic may be said to be in a state of rest.

You will notice, however, that a few sciences, though ever moving, have yet never gone beyond probability; astronomy, physiology, and medicine—meaning by this latter term the curing of disease and the preserving of health—are among these backward ones, and nowhere else in learning has fanaticism and superstition, backed by rigid conservatism, been so common. Witchcraft, once started, owed to conservatism its strength. For there settled upon the world at that time a kind of self-satisfaction, an unreasoning self-assertion. What is, is right; more than this cannot be; such was the doctrine of that age, and not a voice lifted against the darkness but was forever hushed. Such a state of affairs could not but

[1] Luys: Le Cerveau et ses Fonctions. [2] Luys: Loc. cit.
[3] Perez: Loc. cit., p. 70. [4] Luys: Loc. cit., p. 100.
[5] Bernard Perez: Loc. cit., p 2.
[6] Probably the maternal impressions are conveyed to the fœtus by, so to say, nervous induction.
[7] Dr. Alexander Harvey: A Remarkable Effect of Cross-breeding, 1851. Alexander Walker: Intermarriage, 1837, Philosophical Transactions, 1821. Charles Darwin: The Variation of Animals and Plants under Domestication, 1885, vol. i.
[8] Transactions Horticultural Society, vol. v., p. 68.

cripple to the greatest extent a study that has always been with the laity steeped more or less in mystery.

But, reasoning *a priori*, why may not this be the century of advance in medicine? Never before have anatomy, physiology, and chemistry made such strides, and every day opportunity for research enlarges.

"Learning," says Bacon, "has its infancy in beginning, its youth when luxuriant, its strength of years when solid and reduced, its age when dry and exhaust." It is in these last two periods that proper conservatism plays a part, for to this solid and dry state of learning can come no improvement, save only by a new birth, and such a birth should be acknowledged only after a self-won battle.

Now, medicine is yet as a whole in its infancy. The tendency having been to divide the subject into anatomical groups, diseases have followed, and specialties are now numerous, often inconsistent, and this has caused some branches to outgrow others. Surgery, for instance, has in this century reached a limit. I speak not of improvements, methods, or styles, but of extent. Every organ has been attacked: a spleen, a kidney, the limbs, portions of brain, liver, spinal cord, lung, stomach, lengths of intestine, etc. Still there cannot be a doubt but that the heart, liver, brain, stomach, bladder are without the domain of, if I may coin the term, excisive surgery. This is not due to a paucity of knowledge, but to the necessity of these organs to life.

I would not be understood as considering surgery perfected, there is room for improvement. It is, indeed, impossible to foresee the future of transplantation, implantation, and grafting, and I doubt not that some surgeons dream of endowing conglomerations of anatomical curiosities with life; but I feel that surgery has reached a limit for the present. To those who object I answer that history does not offer a single instance of an art or science that has not its period of quietude, caused seemingly by the stronger waves of the current of universal progress flowing in other channels.

The ordinary human life is the best example of nature I can offer; you will notice that each successive seven or ten years is devoted to the development of some one physiological part. Each system has its period of greatest growth, and in that period all parts not concerned simply exist.

The present day marks an important epoch in the treatment of disease. Dr. Koch looks forward to wonderful results; his continuation of an old idea looks forward to a universal principle; as yet darkness covers the field, still only a month ago a physician told me he was conservative, he did "not go much on this new thing." Alas, that, added to the difficulties of any innovation, there should be the spirit of "opposition to change!"

You cannot be conservative in your treatment of tuberculosis, of diphtheria, of the exanthems, of any disease, unless you believe in specifics, for there is no treatment to-day that is satisfactory. That man is very young who has not felt his helplessness at the bedside of dying humanity. He is only an idiot who can claim any treatment to be right beyond peradventure, and yet such is the opposition to change that in this day I have heard it said, concerning the use of electricity in stricture, by a man who admitted never having tried it, "I don't believe there is anything in it." That is called sitting on a man; well, I had rather such a man disagree with me than agree. That was conservatism as it is.

Conservatism may be the pass-word to perfection, or at least to constant excellence, but it is the barbed obstruction that pulls ever backward on the wheels of progress. It should mean moderation tempered by desire for the new and knowledge of and respect for the old. It is, however, most often a fatal clinging to the period of a man's student life, or to some single phase of experience.

Conservatism as a quality has injured the profession in general and in particular—the old and the new.

In general: It has lowered the physician from the high position of master and teacher to that of public servant; for it grew big with the child positiveness, and to-day we must often sacrifice our best determination for taste and memory, to pay for those dear old men who prescribed cures worse than the diseases.

It has, moreover, been the cause of that loss of popular respect which belongs to the physician. Public opinion since the days of Elizabeth has demanded a share of all knowledge; the last to yield to that demand was this profession, and to-day the public press and opinion is paying off the score. Patients know best to-day the effect of antipyrine, phenacetine, quinine, morphine, etc., on their system, and do not hesitate to tell it. In regard to this very latest study of Dr. Koch, the people have had the best information, and before doctors were willing to inject, people presented themselves for practice.

It has taught a certain disdain of old ideas and ways, together with a stolid scepticism toward the new. It has caused the loss, or at least the disuse, of many good medicines, for unlimited confidence in any one measure leads to its application in unfit instances, and consequently failure; and failure of a favorite means its death.

In another direction, this conservatism has flooded the druggists' shelves with a host of preparations of the same medicament. Dr. A—— will use none but Jones' hypophosphites; Dr. B—— wants Smith's; Dr. C—— must have Brown's; etc., *ad nauseam*. The druggist cannot keep so many, or perchance is out of one or the other; he substitutes. The doctor does not know the difference, there probably is none; the druggist takes courage, and substitution being successful, teaches not only fearlessness but also the very often unfortunate truth, the belief that the prescriber is a fraud.

Conservatism renders many consultations void and useless. It is not always jealousy that prevents the following of another's idea, but an honest, though unreasonable, love of one's own method.

It is this, I believe, that draws the often hard and fast line, the coldness and jealousy between the old and young. The youth, entering the field with new remedies and novel ideas, appears at enmity with those who cling conservatively to old notions and older medicines, and here it is detrimental, in that it dwarfs and impedes progress. That ancient medicine and old notion is not valueless, neither is the new remedy and later idea foolhardy; but they should come together, each should modify the other; by bringing the diamonds, experience and novelty, together we cut the perfect stone, rational improvement; let both be errors, is it yet not true that "the collision of errors elicits truth?"

One of the greatest, if not the greatest, surgeon in all Britain told me he considered the *doctor optimus* to be the American country physician, for, said he, his materia medica is revised by the experience of old women. There is no sadder part in our professional history than that telling of the general treatment of the young by the old. Outside of every other reason, the simple fact that the good of humanity is our life-work should lead to a helpful fellowship. Financially no man ever lost a dollar by allowing his knowledge to be helpful to the first honest comer, and that the old have much to learn from the young is acknowledged by every thoughtful man. A modification of any general method is a certainty. Be you old or young, single or en masse, your pet theories will be overwhelmed if they become to you universal remedies, or panaceas. But a gradual change, or rather a progressive development, will bring wisdom, while an overthrow causes failure. In any of the periods of craze, in the past, the opposition of the few rational men has been ignored; yet, my friends, how futile have proved the efforts of conservatives to keep alive their cure-alls, how vain in every case their stubbornness! But the reformers, whether individual or in sects, though they rose but to perish, have yet in their decay, cried victory! Hahnemann himself has modified the therapeutics of his successful enemies; Broussais stopped the fearful purga-

tion practised by his mockers; and to day hypnotism laughs at the scoffers of Mesmer.

If you will have conservatism, if you consider it applicable to your profession, then I fear only a millennium will bring the true application; for it should mean a wise moderation, a spirit of perpetual advance, a holding to the good, a fleeing from the bad, admitting that superiority is not the parent of invention.

It is not the most famous that do the greatest good, neither do the most successful advance the profession most.

A proper conservatism would, I hold, bind together the theorist and the practitioner. A physician should hold each remedy as a temporary aide-de-camp, not as the general of his life's whole warfare; present means should never become future extremes, and our minds should become imbued with the fact that morbidity, idiosyncrasy, and heredity do not offer a single opportunity for the application of a hard and fast rule.

Let us learn to hail him who presents a new idea as a student, not ignoring nor yet canonizing, but accepting and encouraging, remembering that even failure is a degree of advance.

We cannot in any wise be puffed up, for I believe the future of medicine to be beyond our comprehension. I believe progress in this art will be almost a revolution, but I believe that just so long as we allow each novelty to replace the present, just so long as we ignore the novelty and retain alone the present, just so long we obstruct. No profession offers such opportunities for the charlatan, no profession offers such opportunities for intellect. Let us then strive in every manner for the crushing of the former, and the immortal flight of the latter. 'Let us be out and out prudent, precise, and professional; free to refuse, free to accept; hiding behind no wall of custom, no buffer of conservatism, but alive to every advance; admitting weakness and imperfections, but demanding, mark you, demanding high and proper respect, for such is ever due a wise moderation.

MALIGNANT DISEASE OF THE VERTEBRÆ SIMULATING POTT'S DISEASE.[1]

By A. B. JUDSON, M.D.,

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I HAVE seen three cases at least, in each of which malignant disease of the vertebræ was supposed for a time, by myself and other observers, to be Pott's Disease. The first case occurred in 1884. When first seen the patient, a boy aged four years and eight months, walked with a stiff gait and stooped carefully. Pain in the back and abdomen, the chief symptom, had been present two months or more. There was very slight, if any, projection, but I made a diagnosis of incipient Pott's disease at the first or second lumbar vertebra. When I saw him again, twelve days later, he had been in bed for six days, without motion or sensation of the lower extremities. A brace had been made for him by another observer, but the patient had been too ill to present himself for treatment. He still complained of pain in the back. Pulmonary and urinary troubles intervened, and death occurred ten days later. At the autopsy no caries was found. There were numerous sarcomatous growths springing from the dorsal vertebræ and some of the ribs. They varied in size, the largest having a diameter of two and a half inches. This growth had also invaded the vertebral foramina.

In 1885 I examined the second patient, a man aged thirty-five. It was thought that Pott's disease might be the cause of certain symptoms which had led to a previous diagnosis of renal calculus. The patient was almost entirely disabled. He could with difficulty get upon or rise from the bed. Pain in the lumbar region and in the thighs was the chief symptom. Duration about one year. The normal spinal curves were unbroken. I eliminated Pott's disease, and suggested possible malignant disease. He died five months later. I am informed that morphine was used till the last, and that malignant growths were found attached to the vertebral column, and in the lungs and diaphragm.

In 1890 I applied a spinal brace in the case of a man aged forty two, who was paraplegic from supposed Pott's disease of two years' duration. At the eighth dorsal vertebra there was a slight but distinct angle. There was persistent fecal and urinary incontinence. It was thought best to try thorough mechanical treatment before opening the vertebral canal for the relief of the paralysis. No improvement being seen after ten weeks, the canal was explored by an operation which the patient survived but a few days. A sarcoma was found, the presence of which had not been suspected. Inspection was not carried farther.

Considering these cases, we are especially interested in the question of diagnosis. The two mistakes here reported would have been avoided if we had waited till kyphosis appeared; but an early diagnosis is always desirable, especially when the lower regions of the spine are in question, where the vertebral bodies are large, and where caries might exist a long time before the natural curves are broken. In none of these cases was there marked projection. In one the spinal curves were normal. In the others my notes contain the expressions: "Very slight, if any, projection," and "eighth dorsal vertebra shows a slight but distinct angle," words which may leniently be reviewed as intended to record suspected points in the vertebral column, rather than important diagnostic indications.

In two of these cases was present the paralysis which has caused this affection to be chiefly known in medical literature as "paraplegia dolorosa." This form of paralysis may well add, as happened in the cases reported, to the difficulty of differential diagnosis. Aside from points of neurological interest, the features of these cases, important to be remembered by us in future examinations, are the local pain and disability and the general reaction. All these patients were very ill, which cannot be said of most patients affected with Pott's disease. They all had severe pain and extreme disability in the back, which Pott's disease is so free from that, when we hear that there is pain in the back and spinal disability, the first thought is to eliminate spinal caries. It is strange, with the back virtually broken, as it is in Pott's disease, that pain and disability are not present and excessive. It is evident, however, that the recognition of these symptoms in a case of suspected Pott's disease should suggest at least the possible presence of an enemy still more intractable. These two affections are also different, in that in one the advance is insidious, while in the other the onset is alarming and quite in keeping with its implacable nature.

In brief, the chief diagnostic points are the following: 1, Deformity, present in Pott's disease, absent in malignant disease; 2, local disability, and 3, local pain, both absent in Pott's disease and present in malignant disease. I submit these thoughts as having some practical application, and would refer for a full account of this, happily not common, affection to the writings[1] of Dr. Edes and Dr. Amidon.

The Temperature of Drinks.—A writer in a German paper gives the following as the proper temperatures for different sorts of beverages: Water, 54°; seltzer-water, and beer, 57° to 60°; red wine, 62° to 66°; white wine, 60°; champagne, 46° to 50°; coffee, 73° to 79°; beef-tea, 100° to 125°; milk, 60° to 64°; hot milk, 93° to 95°.

[1] Read before the American Orthopedic Association, Washington, D. C., September 24, 1891.

[1] Cases of Malignant Disease of Vertebræ, with Paraplegia Dolorosa, R. T. Edes, Boston Medical and Surgical Journal, June 17, 1886, pp. 559-56a. Malignant Disease of the Spine, a Contribution to the Study of Cruveilhier's Paraplégie Douloureuse, R. W. Amidon, New York Medical Journal, February 26, 1887, pp. 225-231.

LAPAROTOMY FOR ACUTE INTUSSUSCEPTION.[1]

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THE case which is to be reported is no triumph of surgery; on the contrary, it is one of those defeats from which we may learn sundry lessons of warning and guidance for the future. It is, moreover, worthy of record on account of some unusual clinical features rendering an exact diagnosis impossible, although it was evident that the only available treatment was immediate abdominal section.

Alfred N——, thirty years of age, married, a carpenter by trade, was admitted to St. Luke's Hospital on the evening of August 8, 1891. He had had pulmonary trouble for six months, and for three months had suffered from a diarrhœa, probably tuberculous in origin, with frequent attacks of colicky pain and vomiting. Three days before admission, just after he had eaten his breakfast, he was seized with an intense pain in the abdomen, followed by vomiting, and the pain and vomiting have persisted ever since. The pain was intermittent and colicky, not localized in any one part of the abdomen. The vomited matter was green at first, but had gradually become dark and assumed a fecal odor. Since that time he had had no stool, his diarrhœa ceasing at once, and he had not even passed any flatus. General abdominal tenderness developed, and he lay with his thighs flexed. He had been unable to retain anything on his stomach, and had passed scarcely any urine.

Examination on admission showed extensive phthisical changes in the right lung. The liver dulness extended one inch below the free border of the ribs. The abdomen was very slightly distended and tympanitic, and there was general tenderness, somewhat more marked on the right side than elsewhere. No tumor could be felt. Examination per rectum (by one of the hospital internes) was negative—the rectum was empty. The temperature was 96° F., the pulse 160, and small. The tongue was moist, but coated with a white fur. The patient was much emaciated and his face drawn and anxious. Under stimulation the pulse became 140. and the temperature rose to 100.4° F. The urine contained much albumin.

It was evident that one of two conditions was present—acute intestinal obstruction or subacute perforative peritonitis. The history of phthisis and diarrhœa, and the repeated attacks of pain, favored the latter view; but the slightness of the distention and tenderness after an illness of three days were decidedly against it. On the other hand, the symptoms did not correspond with the ordinary picture of intestinal strangulation, while the lack of abdominal distention seemed to exclude any form of obstruction without strangulation. Dr. William T. Bull kindly saw the case with me, and agreed that laparotomy was indicated in either condition, although it was extremely doubtful if the patient would survive the operation. Enterostomy would have been useless, because there was no accumulation of intestinal contents.

At midnight laparotomy was performed, with a median incision extending from the umbilicus to the pubes. A large quantity of clear straw-colored serum escaped when the peritoneum was opened, and there were no adhesions of any moment. I partly drew out a coil of small intestine in which a doughy mass could be felt, and, showing it to Dr. Bull, with the remark that it was fecal matter, let it fall back. There was so little distention of the bowel that it was difficult at first to say what was distended and what was empty, and it was not until the intestine had been exposed to the air for a few minutes that the difference between the coils above and below the point of obstruction became evident. The cæcum was found collapsed, and following the small intestine upward with the hand, about one foot above the ileocæcal valve the supposed fecal matter was again encountered, lying in a coil of gut in the pelvis, and when this loop was fully drawn out it became clear that there was an intussusception, forming a tumor about six inches long, so that at least eighteen inches of the ileum were involved. I had been deceived at first by the natural appearance of the sheath, by the softness of the apex of the intussusceptum, and by the ease with which it slipped back and forth in the sheath. The adhesions proved to be slight, and the only obstacle to reduction was the œdematous swelling of the intussusceptum; but this difficulty was overcome by firm compression with the left hand, while the adhesions around the neck were broken up and traction gently made with the right. About four inches of the bowel in the neighborhood of the neck was in poor condition, and there were two spots about an inch in diameter in which sloughing seemed almost inevitable; but the condition of the patient compelled me to close the abdomen at once, so the injured loop was wrapped in loose folds of iodoform gauze, and laid just within the abdominal wound, some of the gauze being brought out between the lips of the wound, which were lightly drawn together with temporary silk sutures, the idea being that in case of rupture of the bowel the intestinal contents would readily find their way out of the abdominal cavity; while if the gut did not rupture, the gauze could be removed in two or three days and the wound closed by secondary suture.

The patient rallied a little, and had a movement of the bowels, proving that the gauze had not caused obstruction by its pressure, but he died, as was expected, five hours later.

The autopsy showed tubercular ulceration of the intestine, but no tumor or other cause for the intussusception was found. The sloughing portions of the intestinal wall were the bases of ulcers, the pressure not having been severe enough to cause gangrene where the wall was healthy. There was nephritis.

This case is interesting in several respects. In the first place, there were none of the pathognomonic signs of intussusception—the frequent stools of blood and mucus, with tenesmus, and an abdominal tumor, so that we excluded that form of obstruction from consideration, although the history of the sudden onset of constipation in the course of a diarrhœa suggested it at once. The lack of distention of the bowel, even after three days of complete obstruction, is also noteworthy and is in favor of the theory of v. Wahl, who claimed that distention only occurs in those cases of acute intestinal obstruction in which there is at the same time some interference with the circulation of the blood in the affected bowel, for the circulation of the implicated gut was very slightly disturbed in this case, and probably no gangrene would have occurred if the intestinal wall had not been weakened in certain parts by the tuberculous ulceration.

One point of very great interest to me was the fact that the bowels acted before death, proving that the gauze which had been packed around the injured loop, similarly to the method employed by Hahn in resection of the bowel, had caused no obstruction by pressure or by traction. This is a welcome demonstration, for the expedient of wrapping gauze about a point where perforation of the bowel is to be feared, and drawing the abdominal wound together over it with temporary stitches is likely to prove useful in many cases of intestinal surgery.

But perhaps the most important fact in regard to the operation was the comparative ease with which the reduction of the intussusception was effected, giving another example of the truth that the adhesions and other pathological changes may be very slight even in intussusceptions of some days' duration; in fact, they have been found absent after several weeks. On the one hand, this should encourage operation, even when the case is not seen in the first twenty-four hours; while, on the other, it should warn those who feel inclined to wait upon nat-

[1] Read before the Surgical Section of the New York Academy of Medicine, October 12, 1891.

ure's method of cure by sloughing of the intussusceptum, against putting trust in the formation of adhesions as a protection against perforation and peritonitis. It should be noted, however, that in some cases the adhesions have become so strong in twenty four hours as to render reduction impossible without injury to the bowel.

This case is only another illustration of the slowness of the profession in general to recognize acute intestinal obstruction and to take the only available means for its relief—operation. If the physician who had charge of this man for three days had promptly referred him to a surgeon, the patient would probably have been saved, even if the operation had been performed only twenty-four hours earlier, an estimate which would have allowed the physician forty eight hours in which to make his diagnosis. It is true that the exact lesion present in this case was obscure, and even at the time when he was seen by us there was still room for doubt whether it was intestinal obstruction or perforative peritonitis, while there was scarcely a single symptom of intussusception. Nevertheless, it was clear that nothing but laparotomy could give the man a chance, and this fact must have been evident very early. I am not insisting upon this in order to blame the physician who had charge of the case (for the delay may have been the fault of the patient), but to emphasize the point that in spite of all that has been written and spoken upon this subject in the last few years, and in spite of all that has been gained by this discussion, the medical side of our profession are still reluctant to accept the theory that surgery offers a chance for cases of intestinal obstruction or peritonitis, for which there is otherwise no hope. Even when the truth of this claim is theoretically admitted the physician is apt to be too slow in acting upon it, and thus allows the patient to become exhausted by his sufferings, and lets slip the only opportunity of saving him.

Some years ago I was asked to see a case of chronic intestinal obstruction from a carcinomatous stricture high up in the rectum. in the medical wards of St. Luke's Hospital, and as the man was still in fair condition advised delay. A sufficient movement of the bowels was obtained and he improved, and I was not called to see him again until eight days later, when I found him in collapse, with an immensely distended abdomen. An artificial anus was made, but the patient expired in a few hours. The bowels had not moved for three days, but the house physician, doubtless made over confident by his previous success, and expecting every day to get a passage, failed to call me before the sudden collapse of the patient rendered it too late.

A few months since, a colleague was watching very closely a case of intestinal obstruction of a rather chronic type, in a female patient, due to adhesions from a laparotomy performed some time before. He was called out of town, having left word that if she grew worse I was to be summoned. In the afternoon of the same day she failed so fast that it was necessary to do a laparotomy at once, and I released a number of adhesions, but again it was too late, and the patient never recovered from the shock of the operation, which was a tedious one, as it was necessary to take some intestinal sutures to close one or two small ruptures of the intestinal wall.

These cases may serve to indicate how easy it is, even for good men who are on the spot all the time, to delay too long, and how dangerous delay is, even in hospital practice, where a laparotomy can be performed at half an hour's notice. In common with many other abdominal lesions, the fatal collapse may occur so quickly in these cases that even within that short interval the patient may fall from a favorable into a perfectly hopeless condition. Such operations are among the most disheartening in surgery, for the operator feels that he is merely making an *ante-mortem* examination instead of a *post-mortem* one. The truth is that in cases of abdominal lesions we cannot afford to count on the future even for half an hour at a time, and we must never lose sight of the fact that even in the most favorable case of this kind the uncertainty is as great as if we were feeling our way along the brink of a precipice in a dense fog.

In spite of these difficulties the results of laparotomy for acute intussusception have improved of late years. I once had occasion[1] to collect 70 cases operated upon from 1873 to 1887 inclusive, in which the mortality was seventy-six per cent. I find that there are now on record 105 cases, with a mortality of seventy per cent.—a very encouraging improvement. It also appears that out of 65 cases in which the intussusception could be reduced only 38 died, a mortality of fifty-eight per cent.—among the children the mortality was sixty six, among the adults forty-seven per cent. Of 17 cases in which the affected bowel was resected and sutured only 2 recovered, both adults. Of 16 cases in which an artificial anus was made (with or without reduction or resection of the intussusception) 2 cases recovered, also both adults.

Results of Laparotomy for Acute Intussusception.

	Children.		Adults.		Age?	Total.		Mortality, per cent.
	Recovered.	Died.	Recovered.	Died.	Recovered.	Recovered.	Died.	
I. Intussusception reduced.....	15	29	10	9	2	27	38	58
II. Intussusception not reduced :								
a. Nothing done.....	..	5	..	2	..	..	7	100
b. Resection and suture.....	..	7	2	8	..	2	15	88
c. Artificial anus made : 1. After resection or reduction.	..	6	1	1	..	1	7	88
2. Without resection or reduction	..	1	1	6	..	1	7	88
Total.....	15	48	14	26	2	31	74	70

These figures show that prolonged operations are almost invariably fatal, and furnish another argument against delay, for that is the usual cause of the conditions which render operations difficult. Delay is also responsible for the high mortality in these cases, for nearly all the patients are recorded as being in very bad condition, or even in collapse, at the time of operation. Laparotomy, to give good results, must be performed as soon as systematic efforts to reduce the intussusception with rectal injections have been made without success. We must constantly bear in mind both sides of the shield—there is danger in performing laparotomy for intestinal obstruction, but there is also danger in postponing it until it must be undertaken as a last resort.

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McBurney: New York Medical Journal, 1891, i., 374 and 434, two cases.
Lange: Ibid., 374, two cases.
Johnson: South. Med. Record, 1891, xxi., 281.

[1] Transactions New York State Medical Society, 1888; and Buck's Reference Handbook of the Medical Sciences, Appendix, article Intussusception. One case was duplicated by error, the correct total is 70.

Clinical Department.

A SOAP-EATER.

By R. ELLIS, M.D.,

DANBURY, CONN.

I SHOULD like to place on record the history of the following case of a mania for soap-eating, which I believe deserves the coinage of the word sapessomania; or a mania for eating soap.

Mrs. J——, aged twenty-nine, consults me in reference to an irritable stomach of long standing. She gives the following details: When about three years of age, she first enjoyed a mouthful of bar-soap; so agreeable was the taste that she would eat it "whenever she could get it." When aged five years, her mother found her, spoon in hand, eating soft-soap with keen relish. As she grew in years, so did her yearning for soap—her playmates ate candy, but she preferred soap; her father brought home to the other children sweetmeats, but to equally satisfy her a piece from common bar-soap must be given. Until she was eleven her sapessomania continued. When awake she loved to handle it, and smell of it, and eat of it. When asleep she dreamed of soap. Often, to pacify her, a piece was given to her to hold in her hand to soothe her to sleep, when she continued in her imagination still to eat soap. At eleven her stomach burned her so that she stopped her habit, but still continued to love to handle and to think of eating the great delicacy.

When twenty-three, or twelve years after her last feast, an advertising agent left at her door a five-cent bar of bath-room soap, which pleased her so much that she ate it all in twenty-four hours. Since then she has eaten none, though there is always the desire to do so. To-day, did not her stomach forbid, the yearning to "eat some more" would be irresistible. Though she can no longer eat it, she still loves to handle it, she loves to use plenty of it in her housework and in her bath-room. The smell of it is still sweet to her nostrils, and the thick suds she delights in remind her of the days gone by, never to return. Strange to say, she cares only for the coarse bar-soap—fancy soaps she never uses. Personally she is of nervous temperament, yet evidently a woman of much self-control. She asserts that her mania is as strong to-day as it was years ago, though she has tasted soap but once in eighteen years. Despite her statements, however, I believe she is still eating the little amount of soap which her irritable stomach will allow her.

A SUCCESSFUL CASE OF INTUBATION.

By H. S. McCONNEL, M.D.,

NEW BRIGHTON, PA.

EARLY in the morning of July 8th I was sent for to see a four-year child who was suffering from diphtheritic croup. It was about two hours before I reached the residence, and an aunt of the child said it was unnecessary for me to come in as the attending physician had just left, saying nothing more could be done, and that Howard was dying. I went in, however, and took O'Dwyer's tubes with me. Found the little patient lying on his back, head retracted, cyanotic, extremities cold, unconscious, and unable to swallow; but he had a good strong pulse. The physician in charge, Dr. E. W. Shuts, was recalled and we proceeded to intube the larynx. The child made no resistance until the tube was partially inserted, when he struggled so violently for breath that it was immediately removed, and with it came a large piece of membrane. This gave him instant relief, and in a few minutes he swallowed some whiskey and water. We now concluded to wait for the symptoms to again become urgent before making another attempt. In exactly two hours a No. 3 tube was successfully introduced, the string brought out through the mouth and fastened to the ear. In the evening the boy wanted his playthings. For the first forty-eight hours we fed him through a tube, after this by placing him on an incline, his head the lowest point. In this position he took all the nourishment he required with perfect ease. He improved rapidly, and on the fourth day, all the membrane having disappeared from the pharynx, the tube was removed, having been in the larynx just ninety-five hours. In removing the tube the string attached to it was passed through the fenestra of a dull uterine curette, and the latter then shoved back against the tube, the string being held tight; the curette was then raised and the tube slipped out easily. The child progressed favorably and rapidly toward recovery. That he would have died without the operation there can be no question, and it is equally certain that tracheotomy would have failed because of poor nursing. We desire to report this case, that country practitioners can see that it is possible for them to perform this operation. The instruments used are the property of the Beaver County Medical Society, the said society having voted to purchase a number of instruments that are expensive, and not frequently used. This case is its first purchase. This is very wise, as it makes it possible for many physicians to familiarize themselves with operations that they would otherwise be unable to, owing to the costliness of the instruments.

GUNSHOT WOUND OF THE RIGHT LUNG—SEPTICÆMIA—RESECTION OF A RIB—RECOVERY.

By DRS. HANSON AND COE,

MISSOULA, MONT.

WILLIAM H——, aged thirty-two, policeman, while attempting to make an arrest January 14, 1891, was shot with a 45-calibre revolver, the bullet entering in the middle line of the body, about one and a half inch from the lower end of the sternum, passing backward and slightly upward, and emerging about three inches below the right axilla. It is said that the shock was quite profound, and the pain was severe; stimulants and morphine were administered hypodermically, and the patient was removed to his home. Hemorrhage was very slight, and there was no coughing or spitting of blood. About one month after the injury the case came under the writers' care. His condition then was as follows: Temperature ranged from 100° to 103° F., with frequent chills, profuse sweating, vomiting, loss of appetite, cough, hectic blush, and all the symptoms of septicæmia. Physical examination showed decided bulging of the right chest, especially at the lower portion, with dulness over the entire lung; respiratory murmur was made out only at the upper portions of the lung. Wounds of entrance and exit looked healthy, but while healed externally, it was evident that the condition internally was anything but good. It was decided to make a free opening at about the point of exit of bullet, break down all adhesions, evacuate the fluid and pus and thoroughly irrigate the cavity, making provision for free drainage.

The operation was performed on February 19th by Dr. Hanson, Dr. Parsons assisting. Dr. Coe administered the anæsthetic, which was done with great difficulty, as patient showed alarming symptoms if at all pressed, but was finally sufficiently anæsthetized to allow the operation to begin. A V-shaped incision was made down to the ribs over the wound of exit, the flap was dissected up, and a large trocar and cannula plunged into the pleural cavity, allowing a quantity of thick fluid mixed with pus to flow out. The trocar was withdrawn, the opening enlarged, and the cavity explored with the finger, which broke down many adhesions and evacuated numerous pockets containing a dark substance, which was of the consistency of cream and rapidly solidified on cooling. Much débris, with bits of clothing, was removed, the cavity was thoroughly irrigated with hot wa-

ter, and a large perforated drainage-tube was inserted. Attention was now directed to the anterior wound. This was enlarged, and several pieces of dead bone with other foreign matter removed. The wound was thoroughly irrigated and a drainage-tube inserted. No communication was found to exist between the two openings.

The patient was in a low condition and reacted poorly, the radial pulse being barely perceptible. Free stimulation was resorted to, and the patient was surrounded by hot bottles, but for three days his condition was most critical. The stomach rejected everything, and all medicine and nourishment—viz., peptonized milk, wine of cocoa, and tincture of strophanthus—was given by the rectum; the wound was dressed on the following day, the discharge being very profuse. Thereafter it was dressed twice daily. Chloride of lime was used in the water for irrigating, as the odor from the decomposing lung was very offensive. The progress of the case from this time on to about April 6th was favorable, except that there was a very harassing cough for a week which was controlled with wine of tar and chlorodyne. It was evident, however, about this time that the cavity was not having as free drainage as was desirable, and that the patient was again showing signs of pus absorption, manifested by elevation of temperature, chills, exhaustive sweats, etc. It was decided that resection of a portion of one or more ribs was indicated, to give the freest possible drainage, and an opportunity to more thoroughly flush out the cavity.

The operation was performed on April 19th, by Dr. Hanson, Drs. Billmyer and Coe assisting. A semicircular incision was made down to the ribs, which were carefully exposed, and a section two inches long of the sixth rib was removed by means of the chain-saw and bone-forceps. All adhesions and gangrenous lung were again broken down, large amounts of pus, serum, and débris were evacuated, and the cavity was washed out. On examining with the finger the pleural cavity seemed to be (as far as could be ascertained) entirely empty of lung-tissue. A large drainage-tube was inserted, and the wound dressed. The condition of patient was much better than at the time of the first operation. The wound was dressed and the cavity irrigated on the following day, and twice daily thereafter for a month. Healing of the wound was remarkable, complete union being obtained on the ninth day, notwithstanding the fact that the wound was constantly and unavoidably bathed in the discharges. The discharge gradually grew less, and has now ceased entirely.

The anterior wound, however, shows that necrosis is going on in the lower end of the sternum, which is displaced downward and to the right. An incision will soon be made down to the dead bone, and same removed. The patient's condition is excellent. He has gained in flesh rapidly, at one time on an average of four pounds a week, looks well and strong, and expresses himself as feeling as well as he ever did. He returns to duty on the police force in a couple of weeks.

REMOVAL OF LIPOMA TUBEROSUM FROM A FEMALE SIOUX.

By Z. T. DANIEL, M.D.,

PHYSICIAN UNITED STATES INDIAN SERVICE, FORT BENNET, S. DAK.

INDIANS, as a rule, are not operated on by surgeons; they have a horror of being maimed or deformed, and are extremely wary of the knife; but now and then a case comes up for interference, when their confidence in the operator is well founded. On July 1, 1891, assisted by Drs. J. B. Ferguson, U. S. Army, and G. W. Wroten I removed a lipoma tuberosum from the axilla (right side) of a Sioux woman fifty-six years of age. Its short diameter was five inches; its long, eight inches. It was quite pendulous, and occupied the axillary space, and down on the posterior and inner aspect of the arm some five inches, and down along the border of the latissimus dorsi about four inches; the upper part of the tumor was projected into the lower part of the axillary space. Neither the brachial nor axillary arteries were involved, nor the basilic vein, nor the median or ulnar nerves. The growth was rather imbedded in the areolar tissue, immediately beneath the vessels and nerves mentioned. Its weight, about eighty ounces, was a source of discomfort to the patient, interfering with free motion of the arm, and causing neuralgia or pain in contiguous regions. She was easily anæsthetized with a mixture one-third ether sulph. and two-thirds cloroform. One long incision, semilunar in shape, on the anterior aspect near its attachment, was made, the tumor was then dissected partly out. A similar or corresponding cut was then made on its posterior aspect opposite the anterior incision and the dissection completed. There were large blue tortuous veins traversing the tumor on its outer surface under the integument, and I expected much hemorrhage from the operation, but after the removal, and withdrawal of pressure from the axillary and brachial artery junction, to my surprise we found it necessary *to tie no artery.* I do not think more than three ounces of blood was lost; the incised vessels being capillaries and very minute. There was no supply artery to this large growth, that we could discover. The edges of the wound were sutured interruptedly with rubber adhesive strips between. All instruments, sponges, ablutions, hands of operator, sutures, and dressings were antiseptic (bichloride of mercury, 1 to 1,000. On the eighth day union had taken place all along the line of the incision, and sutures were removed, adhesive dressing reapplied and patient sent home. There was slight suppuration at one end of the incision on the side, but it continued for a short time only. Patient made a good recovery. There is a lesson to be learned from this operation, viz.: never fear a lipoma on account of its size or location; as a rule, they are simply masses of fat, occupying distinct boundaries, and usually implicating no important vessels or nerves, and are readily dissected out.

AN ILLUSTRATION OF HOW ATROPIA ACTS WHEN APPLIED TO THE CORNEA.

By JULIAN J. CHISOLM, M.D.,

PROFESSOR OF EYE AND EAR DISEASES IN THE UNIVERSITY OF MARYLAND, BALTIMORE, MD.

ONE of the accepted truths in therapeutics is, that mydriatics when applied locally to the eye permeate the cornea, mix with the aqueous fluid in the anterior chamber, and induce action in the iris by direct contact. This fact is capable of proof. When an eye has been brought under the influence of atropia with widely dilated pupil, wash thoroughly the conjunctival surface so as to remove all vestiges of the drug on the outer side of the eyeball. If the anterior chamber be now perforated by the point of a hypodermic syringe a few drops of the aqueous sucked up, and this liquid be dropped on the conjunctiva of a normal eye, dilatation of the pupil will ensue, as when a solution of atropia is instilled in the every-day work of the ophthalmic surgeon. It requires the presence of an aqueous secretion in an anterior chamber to produce a dilated condition of the pupil under atropia instillation. When an anterior chamber does not exist to retain or contain the alkaloid solution, no physiological action of the drug is found, notwithstanding the repeated application of the mydriatic. The following case well illustrates this fact in physiological therapeutics.

Miss M——, aged twenty-five, complained of impaired distant vision at the age of twelve, which developed into a case of conical cornea, with marked myopia, now excessive. Recently the apex of the left cornea has become cloudy and from its extreme prominence friction in lid movements is becoming uncomfortable. Vision in this eye is reduced to counting fingers at a very short distance. I suggested the following operation for the re-

duction of the bulging, viz., perforating the cornea by the actual cautery, a method which I have been practising for the past ten years. Under cocaine a large hole was burned through the centre of the cornea by the looped wire of an electric cautery. A jet of water two feet high followed the withdrawal of the perforating instrument, and was an index of the degree of tension of the eyeball. The application of the red hot wire was but for a moment, so as not to heat up the liquid in the anterior chamber to the injury of the neighboring tissues. Complete effacement of the anterior chamber ensued, with corresponding flattening of the cornea. The after-treatment was an instillation of a one per cent. sulphate of atropia, in a weak sublimate solution, three times a day. The object was to keep the margins of the pupil away from the corneal opening, so as to avoid adhesions. The next day, upon examining the eye, I found scarcely any scleral injection. There had been no pain. Little or no irritation had followed the cauterization. The draining of the anterior chamber was complete. The iris was in contact with the cornea throughout, except at the central perforation. Knowing that there must be some exudation to close up the orifice which I had made, I was anxious to keep the pupillary border of the iris away from the wound. Finding that iced applications of atropia had caused no visible dilatation of the pupil, I ordered six applications a day of this strong mydriatic. For ten days the wound remained open, the leaking of aqueous constantly going on. If the atropia solution was absorbed at all by the cornea it was washed out at once by the constantly escaping aqueous. The eye was carefully examined every day but no dilatation of the pupil was detected. It remained small and very little larger than the hole in the cornea. On the morning of the eleventh day from the time of operation I found the anterior chamber re-established, and the pupil enormously dilated. The moment the orifice closed so as to permit of the retaining of the aqueous secretion and the absorbed atropia the pupil promptly responded in excessive dilatation.

Progress of Medical Science.

Black Urine and Black Ascites. — Professor Senator believes that there are grouped under the name melanin several different pigments, which only have the black color in common. He has seen a case in which the dark brownish-red urine, turning darker on exposure to the air, gave the reaction with chromate of potash and sulphuric acid, but contained much indican, so that the coloration must be attributed to that. The autopsy showed the absence of melano-sarcoma. Moreover, bile derivatives may simulate the presence of melanin in the urine. One ought to diagnose absolutely the existence of a melanotic tumor on the sole ground of the passage of urine which gives the chromic acid reaction, although all melanotic tumors occasion the passage of melanin in the urine. It is noteworthy also that urine may be passed by patients with melanotic growths which contains melanin but does not give the chromic acid reaction An advance in the differentiation of melanogen from indican has been made by the employment of bromine water or ferric chloride, neither of which act on indican. In a case of extensive melanosis Senator observed, besides melanuria, the effusion of a dark-brown ascitic fluid, from which after standing several days a black deposit fell. The pigment behaved with bromine water like that in the urine. The pigment in the urine was chiefly melanogen, but in the ascitic fluid it was melanin. In continuation of the data supplied by Miura, that after injection of hippomelanin into the abdominal cavity of rabbits, their urine contained melanogen in two cases out of four, Senator injected melanin from human melanotic tumors into the abdominal cavities of four rabbits, and found that the urine passed subsequently contained much indican, but no melanogen, and did not become darker with bromine water.—*Birmingham Medical Review.*

Meningeal Angiomata.—Dr. Péan communicates a case of Jacksonian epilepsy, in which the attacks consisted of spasmodic contractions of the left arm and the muscles of the pharynx. The patient also suffered from very severe headache, and an operation was undertaken in the hope of finding some local cause for the pain and convulsions. They were found to depend upon an angioma in the membranes communicating with the superior longitudinal sinus, and Dr. Péan was able to remove the whole of it without loss of blood. The author says that he has been unable to find a record of any similar case which has been operated upon. The extra-cranial angiomata described by Nélaton and his pupils are quite different. They are visible and palpable, their only resemblance to the variety with which Dr. Péan had to deal being that they also communicated with the superior longitudinal sinus. In the case of intra cranial angiomata the prognosis is much more grave, from the fact that such a condition would be almost certain to give rise to symptoms of cerebral disturbance; but now that the cranial cavity can be opened, and the disturbing element removed, the prognosis is shorn of much of its gravity. The conclusions which Dr. Péan draws from a study of his case are as follows: 1. That besides extra-cranial angiomata there exists a variety of angioma situated in the membranes, and communicating with the longitudinal sinus. These are entirely intra-cranial. 2. These angiomata are simple—*i.e.*, they are composed of a loop of capillaries, dilated and tortuous. They do not present definite limits, but gradually become continuous with the neighboring vessels. Their chief feature is that they communicate with the longitudinal sinus by means of a dilated vein. 3. In contra-distinction to the extra-cranial angiomata, the intra-cranial tumors manifest themselves by symptoms of cerebral disturbance varying with the situation of the tumor. Such symptoms are especially localized pain and convulsions of the Jacksonian variety, and those symptoms, unlike similar ones which solid growths give rise to, vary with the position of the head, being augmented by flexion and by compression of the internal jugulars in the neck. 4. The prognosis is grave because of the effect which they produce on the brain, and because of the possibility of rupture and fatal hemorrhage, as was found in one case. 5. But those tumors are amenable to operation, and may be removed without greater risk than that of an ordinary operation.—*The Lancet.*

Caffeine in Pneumonia.—Dr. De Gempt urges the use of caffeine in cases of threatened collapse in various asthenic diseases, but especially in acute pneumonia, and cites several cases in which it was successfully used in conjunction with stimulants. He believes the drug indicated in the course of acute pneumonia when there is evidence of cardiac failure, such as rapid, irregular pulse with lowered tension. Should the pneumonia be of asthenic type, it should be used from the onset, and the earlier in the course of the disease it is used after asthenia develops, the better. In cases of this sort, caffeine, in doses of five to six grains four to five times daily, raises the arterial tension, diminishes the rate of the respiration and pulse, and lowers the temperature. Its action is prompt, but in urgent cases it had better be used hypodermically. It is advisable to continue it for a brief period after the febrile defervescence.—*Western Medical Reporter.*

Habitual Abortion.—Dr. Schuhl observes that when the cause of abortion is unknown, not only must the practitioner see that treatment suitable to all cases is carried out, but he must insist that the patient rests in bed at least during the days in each month of gestation which correspond to her normal menstrual epochs. Sometimes it is best to keep the patient in bed altogether till delivery. The causes of habitual abortion are very

numerous, but two unquestionably predominate. Retroversion is the first; the second is syphilis, whether maternal or paternal. That disease sets up pathological changes incompatible with the development of the fœtus. Paternal syphilis must always be suspected when abortion is very frequent in a woman whose pelvic viscera are absolutely healthy. Hence Dr. Schuhl finds that mercurial inunction applied to the husband is much the best treatment for habitual abortion of uncertain causation. Apart from the fact that patients and their husbands do not always admit that they have had syphilis when they have really suffered badly from that complaint, and are not always aware that they may have passed through a mild form, it is certain that a strict specific treatment has sometimes been followed by fertility, even where all evidence of syphilis has been absent both in patient and husband.—*Annales de Gynécologie.*

The Treatment of Chronic Endometritis.—Dr. Skutsch divides this disease into two varieties. The first is the hemorrhagic form, known chiefly by frequent bleeding independent of menstruation, cancer, or fibroid. The second is catarrhal endometritis, where free discharge from the uterus is the most prominent symptom. The treatment of hemorrhagic endometritis is simple: the cervix must be dilated, the endometrium scraped with the curette, and all distinct fungous growths removed. Then cauterization is necessary. The operator must make sure that there are no small interstitial or submucous fibroids. Chronic purulent catarrhal endometritis is hard to treat. Dr. Skutsch does not attach much importance to the distinction between cervical and corporeal endometritis, as in all cases of purulent discharge from the uterus both the body and the cervix must be treated therapeutically. Dilatation and irrigation of the uterine cavity are necessary. Laminaria tents are useful in practice, but they do not allow of free escape of injected fluids. He greatly prefers a blunt metal dilator. The injections are to be given daily. First, some water containing a three per cent. solution of soda is thrown up, to dissolve the mucus. Then the medicated solutions are to be used. A two and-a-half per cent. carbolic acid, 1 in 5,000 sublimate, or other antiseptic solution, is suitable for this purpose. Dr. Skutsch is not particular what antiseptic he uses. He thinks that the benefit is due to mechanical effects, the antiseptic being precautionary, so that the cure of the endometritis may not involve the establishment of worse pathological conditions. A simple catheter is far preferable to any complicated instrument for the purpose of injection; it allows more thoroughly of the return of the injected fluid. Recently he has dispensed with laminaria tents, and taken to dilating the cervix with iodoform gauze. Vulliet introduced this practice. Strips of ten per cent. iodoform gauze are introduced into the uterine cavity, and after injection more gauze is replaced. The introduction of the gauze is painless, and the patient can go about her duties. In obstinate cases the curette must be used in combination with the gauze and injections. Erosions usually disappear when their cause—purulent endometritis—is cured. If they persist, caustics must be applied. When the cervix is very much diseased, amputation or Emmet's operation may be required.—*Centralblatt für Gynäkologie.*

Observations on the Etiology of Diabetes.—Dr. Schmitz has recently published a paper on this subject, which is based on the study of 2,500 cases of diabetes observed by him. He distinguishes between idiopathic diabetes and melituria or melitæmia occurring in the course and as a complication of other diseases. Of the former he has seen 2,115 cases. He attributes great importance to predisposition, without which he does not think idiopathic diabetes can occur. Of his cases, 1,206 were males, 909 females. Idiopathic diabetes is very rare in childhood, rare in adolescence, but increases in frequency after the twentieth year. It is often overlooked in children. His cases, according to age, are as follows: From one to ten years, 10; from ten to twenty years, 75; from twenty to thirty years, 178; from thirty to forty years, 322; from forty to fifty years, 580; from fifty to sixty years, 678; from sixty to seventy years, 210; from seventy to eighty years, 60; from eighty to ninety years, 2. The author thinks idiopathic diabetes is rare in the inhabitants of Westphalia, Rhineland, and Bavaria, while it is common in Malta and South Italy, where it is as deadly as is tuberculosis in Northern Europe. But the Swedes are frequently diabetic, an observation confirmed by Swedish physicians, and especially by Professor Malmsten, of Stockholm. It is also common in Jews, whether of German or Italian birth. Cantani attributes the frequency of the disease in Malta and South Italy to the excessive use of saccharine foods. Dr. Schmitz admits that Maltese, Italians, Jews, and Swedes eat a great deal of sugar, and also suffer from diabetes; but all Maltese, Italians, Jews, and Swedes who eat a great deal of sugar do not become diabetic, while the disease is not common in many parts of East Germany and in North America, in spite of much sugar eating. Moreover, he has known diabetic Italians, Maltese, Swedes, and Jews who were diabetic, though they did not eat much sugar. He thinks that the liability depends on the race. He has observed hereditary predisposition in 998, nearly one-half of his cases. He has seen 5, 6, up to 8 or 10, and even 12 cases, in one family. These facts are all the more important, as many cases are no doubt overlooked. In many cases it was the brothers or sisters who were diabetic, and not the parents or grandparents. In these cases he thinks the predisposition was congenital but not hereditary.

Severe psychoses, especially melancholia, frequently leading to suicide, occurred in 428 diabetic families, while in the families of 263 diabetics there were no cases of diabetes, but one or more of insanity; also morphinomania, dipsomania, and onanism are frequent in diabetic families. He would add that the disease apparently occurs frequently in gouty and tubercular families. There can be no doubt that eating much sugar is injurious to diabetics, but the habit often long precedes the outbreak of the disease. In 641 cases for some time before the occurrence of diabetes there had been much sugar eating. He thinks if it had been excessive it might have given rise to gastro-intestinal catarrh, but not to diabetes. He was a long time in North America, and saw that the Americans are as much addicted to sweets as the Maltese or South Italians. In spite of this, and though they suffer much from dyspepsia, he has never heard that diabetes is very frequent.

The author regards care, worry, serious emotions, and nervous shocks as conditions which may aggravate existing diabetes or produce it. He has often seen anger or fear increase the quantity of sugar. After the great electoral campaign of 1887 many of his patients complained of increased sugar excretion and impairment of general health. He attributes this partly to the drinks, that would be numerous at such a time. But a great shock may profoundly affect a diabetic's nervous system without increasing his glycosuria, as in a case related where the death of an only son, the support of the family, threw a diabetic into a state of melancholia, but the sugar, which had disappeared, did not return. He refers to his paper on the communicability of diabetes, and he states that he thinks these cases must be merely coincidences. He says the etiology of idiopathic diabetes is so like that of tuberculosis that he wonders whether it also may be due to a micro-organism. Respecting his cases of secondary glycosuria, 155 occurred as a complication of gout, 128 in obesity, 17 in cancer, 16 in valvular disease of the heart, 12 in brain syphilis, 10 in morphinomania, 9 in liver-cirrhosis, 9 in spinal cord diseases, 1 in waxy liver, and 1 in Addison's disease. Besides these, 6 occurred after a fall on the head, 4 after a blow on it, 1 after cerebral concussion in a railway accident, and 3 showed themselves in convalescence from typhus. He should call it melitæmia in disease of the pancreas if he could diagnose that condition.—*Berliner klinische Wochenschrift.*

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SOME NEW STUDIES IN THE THERAPEUTICS OF TYPHOID FEVER.

AN interesting and novel study of the therapeutics of typhoid fever has been made by Drs. G. Rocque and E. Weill, of Lyons, France (*Revue de Médecine*, September, 1891) and by Professor Teissier of the same city.

The object of their investigation was to determine the effect of treatment on the elimination of toxic substances by the urine; the method consisting in determining the "coefficient of toxicity" of the urine in typhoid fever when the cases were not treated at all, and when treated by cold baths, or antipyrine, or naphthol. This toxic coefficient is obtained in the following way: The total urine of twenty-four hours is measured and filtered; enough of this is injected into the auricular vein of a rabbit to produce the death of that animal. The urotoxic coefficient is represented by a fraction, of which the numerator is the weight of the animal, and the denominator the amount of urine necessary to kill it. The figure used for the denominator, however, is the amount of urine secreted per kilogramme of the patient's weight. The normal coefficient is about 0.363 kilogr.

In typhoid fever this coefficient is always much increased, owing to the greater excretion of toxic products. This increase averages about .700, or double the normal. It is lowest at the beginning of the fever, and steadily increases (.560 to .800); it is quite independent of the fever itself, and also of increased secretion of urine. It lasts after the fever subsides, and continues throughout convalescence, or even longer.

In Lyons two methods of treatment prevail, that by baths—the method of Brand and Glénard—and that by antipyrin, according to the method of M. Clément, viz., the administration of seven to fifteen grains of antipyrin every three hours. The statistics of M. Clément are said to be *très belles*, and they have evidently weaned some of the Lyons physicians away from their baths.

The danger in typhoid fever, it is admitted, is not the fever; but it is, according to the French view, the toxic substances which accumulate in the blood. This danger from toxæmia can be combated in two ways, either by increasing the amount and rapidity of the elimination of the toxines, or by lessening their production. Four cases were submitted to the bath treatment and their urotoxic coefficient carefully taken. The amount of liquid drank was also measured.

The observations showed that under the baths the urinary toxicity increased steadily and enormously, so that the coefficient is increased to five or six times the normal. At about the tenth day it remains stationary, and in a few days begins to descend, so that by the time the fever ceases the toxicity of the urine is at the normal. The cold bath, then, does not lessen the production of toxines, but it is a powerful stimulant to their excretion.

Two cases were treated by antipyrin. In these it was found that under this drug the urinary toxicity promptly fell below normal, and continued so while the antipyrin was given. The coefficient sometimes fell below .200. However, as soon as convalescence began, and the antipyrin was suspended, the toxicity promptly rose to three or four times the normal, and so continued for a considerable time. Thus it appears that antipyrin does not lessen the production of toxines, but simply prevents their elimination.

Professor Teissier's observations, made in a similar manner with naphthol, showed that it lowers the elimination of toxines both during the fever and during convalescence, hence it had really a specific action in lessening the production of poisons.

If any general induction can be made from these striking but somewhat limited series of experiments, it would be that a combination of naphthol and cold baths would be the ideal treatment for typhoid from an antitoxic point of view; for the one agent would lessen the production of toxines, while the other would promote the elimination of those which were manufactured. The observations here quoted also tend to discredit the "bibulous" method of treatment which is advocated so strenuously by Lichtheim of Königsberg, and which has been adopted somewhat in this city. Dr. Valentini, the assistant at Lichtheim's clinic, gives typhoid patients two litres of milk, one litre of bouillon, and as much water as can be absorbed without producing disgust and repulsion. He also gives two hundred grammes of sugar of milk, dissolved in water, partly for its nutritive, partly for its diuretic action. Rectal injections of water are also given.

THE DISEASE THEORY OF INTEMPERANCE.

IT is a great pity that out of the discussion of the various phases of the temperance question so little practical good has yet come. The hostile forces, in a political sense, have ranged themselves along lines pretty well understood. In an ethical sense the lines of cleavage have now become quite distinct. If intemperance is a crime, say some, it should be punished by law. If it is a disease, say others, it should be so treated both by therapeutic agents, and, if necessary, by restraint, as is allowable in many diseases. The atmosphere of discussion has been somewhat cleared by the symposium in the current number of the *North American Review*, to which Drs. Hammond, Crothers, Carpenter, and Edson contribute. They all agree in the main, but work out their theories along somewhat different lines. All admit that drunkenness is on the increase.

It will be observed that all four of the writers lay particular stress upon the physical side of the question, and touch rather slightly on the moral. In this respect there will always be a great difference of opinion. Many

physical conditions which eventuate as disease are started primarily by man's knowingly violating the laws of health. The remoteness of the penalty lulls whatever scruples he may have at the time. But when the man is diseased we do not treat him on a moral ground, but on a physical. So drunkenness is in many instances a crime without any excuse or extenuation. As such it must be punished. As to the best method of punishment, there is a wide latitude of opinion. In many other instances, and perhaps far more than most of us realize, drunkenness comes from an environment not of the individual's own creating, and we should no more punish him therefor than we should for contracting phthisis or kidney disease.

In strong opposition to the general theory advanced by the contributors to the *North American Review* is the dissertation read some time ago, before the Connecticut State Medical Society, by Dr. W. G. Brownson, of New Canaan, Conn. He regards intemperance as "one of the many outgrowths of diseased conditions, mental, moral, or physical. . . . That it is in and of itself a disease is a misnomer. . . . Altered or arrested function is always followed by uneasiness or distress of mind or body, or both. There is naturally a desire for relief, and if the first thing that brings that relief be intoxicating drink, shall we name the disease alcoholic inebriety?"

Dr. Brownson boldly combats the truth of the statistics which go to show that residence in the various inebriate asylums is a permanent cure for a large percentage of the patients there treated. Along this line he comes into conflict with the statistics given by Dr. Crothers in the article in the *North American Review*. He quotes from the reports of the Scotch asylums, the Maryland State Hospital, and the Utica Asylum. These latter references are all to the effect that recoveries after institution treatment are only temporary. In the Scotch reports the authorities say: "It would not be easy to point out one single case of permanent and satisfactory reform." From Maryland the physician in charge of the dipsomaniacs says: "I do not know of a single case where a cure has been effected by confinement;" and the testimony from the Utica institution is in a similar vein.

Dr. Brownson calls attention to the fact that nearly all the literature in favor of the disease theory has been contributed by those who are interested in some inebriate home. They have, he alleges, drawn their conclusions from a few extreme cases, in many of which injury or insanity has been an important factor, and which, therefore, have been curable because due to a removable cause. From these insufficient data it is not fair to discountenance ordinary repressive or reform work, or the sacred rites of religion, as possible and probable measures for good.

The truth lies in a middle position between these two extremes. Undoubtedly many people have an hereditary tendency to drink. To punish them for alcoholic indulgence would be no more sensible or just than to punish a man who inherited weak lungs because he contracted a bronchitis or a pneumonia. On the other hand, there are many, and we believe the majority, who go into habits of drunkenness with their eyes wide open. They get drunk because they want to, and if they bring by their course disaster on themselves or misery on their friends, they should be regarded as law-breakers and not as diseased persons. Otherwise, as Dr. Brownson observes, we must not punish the drunken man for beating his wife, for he is diseased and has an "uncontrollable impulse;" and he very pertinently asks, "Will not the drunkards laugh at us for relieving them of penalties we impose upon the industrious sober classes?"

That reform in the penal management of drunkards must come, no one can doubt. But it must be along the lines where penal reform in general is being agitated, namely, the classification of offenders. At present all crimes are punished by fine, imprisonment, or death, and in the first two it is merely a question of degree according to the severity of the offence. And we do not believe that future experience will ever justify the unqualified dictum that intemperance is a disease.

THE MEDICAL PILGRIM'S PROGRESS.

To the students of a new generation Dr. Benjamin Ward Richardson once gave an introductory lecture, afterward published in revised form, concerning the medical pilgrim's progress. In the medical journey through life there are two paths, like those before Christian. One is broad, easy, tempting, and followed by many average commercial physicians. Herein walk the idlers in medicine, men born with the historical silver spoon; born not to work, or who work perforce, despising meritorious labor, comprehending the luxury of idleness, and failing always to understand the greater luxury of industry. Exercising a petty rule from the cradle, they go through life captious, supercilious, and careless. Then another class walks in the broad road—human aspirants to distinction through the ignoble art of paying an insincere deference to the vanity of equals and superiors. Bits of original investigation can be picked up in this way and elaborated out of all recognition, to say nothing of place and position that go by favor. Then there are strolling journeymen along the broad highway—lazy, drowsy, helpless—who take things as they come and let them go as they go, and "muddle away their incomes in paying their debts." The latter they always have. Often dissolute to start with, they become nonentities at last, dying as if they had never been born.

The narrow path is rendered sacred by the noble army of martyrs that have followed it. Hippocrates walked here. Vesalius, with stout heart and firm step trod this way, and found that it led him to the gibbet, thence to rescue anatomy and make it a science, in spite of the howls of a superstitious community. William Harvey avoided no ascent, however difficult, gaining one at last which threw open to his clear vision a new world. Here strove John Hunter, proving for the first time the history of the intellect, says Dr. Richardson, that genius may be the mere child of industry. Here has every man striven who may be considered a master in physic.

Is the straight and narrow path too difficult for ordinary humanity? Does it require genius, unusual power, herculean strength? An excess of modesty is a bad thing, and like every other excess, a limitation. Cowards grow bold in war, the mind gains by discipline, and the intellect by exercise. Whoever relies upon the simple combination of force, fearlessness, and fact, has within

himself the elements of genius for science. Education alone will never positively supply these things. They are more or less inherent in humanity at large, and education makes them of practical avail.

To prepare for the medical pilgrim's progress it is not enough to elect to walk in the right path. Body and mind must be brought into healthful concord. One general principle, that Dr. Richardson considers a key to a thousand more, is simplicity of life to the verge of abstemiousness, as strength and vigor of intellect are inseparably connected with simplicity of living. Frugality is not meanness, and to attune the soul to the work before it is in no sense selfishness.

To get on, the medical pilgrim must ever bear in mind the silent, constitutional, yet rapid, revolution in the science and art of medicine, as well as in human mind and affairs elsewhere. The real object of medical education, according to Erichsen in his address at King's College, is to train the mind to remain open to the reception of truth throughout life, and to meet the varying emergencies of a professional career. In Rasselas, the excellent Dr. Johnson thus sums up the earthly progress of the real student: "The life that is devoted to knowledge passes silently away and is little diversified by events. To talk in public, to think in solitude, to read and to hear, to inquire and answer inquiries, is the business of a scholar. He wanders about the world without pomp or terror, and is neither known nor valued but by men like himself."

ANOTHER VIEW OF LITHÆMIA.

In the *Journal de Médecine et de Chirurgie Pratiques* for September 25, 1891, there is an article founded on a recent brochure by Dr. Henry Cazalis, of Aix-les-Bains, upon the subject of the hygiene and regimen best suited to the lithæmic constitution. To the question, what lithæmia really is, various views are cited. Bouchard considers its cause a vice of nutrition that renders possible the abnormal manufacture or accumulation of various products, such as organic acids, cholesterin, fat, or sugar. This permanent error in nutritive metamorphosis causes or prepares the way for abnormities that differ greatly in symptomatology, anatomical location, and pathogenic development. Lithæmia, then, is an oligotrophia in the sense that the process of nutrition transforms too little material in a given time; or a bradytrophia, as Landouzy calls it, to indicate that nutritive metamorphoses are slow. Beneke and Bence-Jones incline also to the idea of suboxidation. The author of that admirable aphorism which proclaims a man as old as his arteries, considered lithæmia a congestive diathesis, an opinion Huchard shared, finding in this condition "a tendency to digestive attacks and arteriosclerosis."

Lithæmics present certain features in common, as a defect in general nutrition, insufficient elimination of waste products, either by the skin, intestine, or kidneys, and a consequent general excitability, with a profound lassitude mornings, owing to the fact that rest and night retard the combustion of acids and diminish the alkalinity of the blood. There is also a predisposition to congestive phenomena, to nervous affections, great susceptibility to infectious disease—as acute rheumatism—and extreme sensitiveness to changes of temperature. While Dr. Cazalis recognizes all this, one characteristic of supreme importance furnishes him the starting-point of a new theory concerning lithæmia. This is, the fact that there exists in all lithæmics a special irritability of connective tissue that makes it, in consequence of some inherent imperfection, the line of least resistance in the human body. Hence the frequent inflammatory processes and proliferations of this particular structure. Thus also is explained the tendency to venous dilatation, to hernias, dilatation of the stomach, and to joint affections; in other words, to troubles in fibrous, osseous, and cartilaginous tissues, which are but modifications of connective tissue. Valvular lesions, arteriosclerosis and phlebosclerosis, myopathies, various nervous lesions, and interstitial myocarditis are all abnormities in which connective tissue is primarily attacked. Emphysema is nearly always of gouty origin, due, very possibly, to some congenital malformation in the pulmonary connective-tissue fibres. Tuberculosis is rare among lithæmics. When it does exist its progress is slow and there are frequent recoveries, owing to its sclerotic form in consequence of this constitutional predisposition to irritability and proliferation of connective tissue. In various scleroses, such as the alcoholic and syphilitic, according to this authority, there is usually a lithæmic base. Thus it will be readily perceived, on morphological grounds, how iodide of potassium is such a valuable agent in many cases of lithæmia.

In regard to diet, vegetables and fruit should constitute the larger part of every meal at which meat is eaten, and vegetables should be taken with every course of meat. Fat and sugar, and even the quantity of food itself, must be restricted in the case of uricæmics. Water seems the best drink, especially for the gouty. It has been claimed that water in itself has the power to cure gout, increasing the activity of all the forces of combustion and thus augmenting the excretion of urea. It is a great aid to the elimination of organic waste material and the dissolving of fatty acids that produce gall-stones. Only light wines are to be permitted. Champagne is peculiarly poisonous. The hygiene of the lithæmic state consists, broadly, in the following general directions: Lessen as far as possible the production and absorption of organic poisons that, by irritating connective tissue, the weakest part of the organism, produce various lithæmic diseases. Assist elimination in every way, remembering that the function of organs engaged in this duty is frequently imperfect. Modify as far as possible the lithæmic soil—that is to say, an inherent tendency to irritation, inflammation, and proliferation of connective tissue—by the influence of suitable climate, temperature, and residence, by rational gymnastics and exercise, by hydrotherapy and massage, and the careful study and recognition of temperament, which, according to Laycock, is the mode of vital action peculiar to the individual.

ÆSTHETIC DRESS A FACTOR IN CHILDREN'S DISCOMFORT AND DISEASE.

When Oscar Wilde, at the suggestion of Whistler, the artist, undertook a crusade against the ugliness then prevailing in Philistinia, and preached the gospel of beauty in dress, he did a good thing for England and America.

Soft fabrics, light in weight, and suitable as drapery for the human form divine, took the place of heavier textiles that the essentially refined relegated to house-furnishings alone. Women gradually became ornaments in the landscape instead of animated blots upon it. The decrease in the weight of their robes literally lifted from their shoulders and waists a great burden. But how about hapless childhood? How about the babies?

In the Whistler-Wilde æsthetic movement followed Kate Greenaway, with a series of pictures illustrating child-life of a nature calculated to penetrate the hardest heart. Every dear little maid possessed a large hat and a long gown, such as the household grandmothers wore in the ages known as long ago, and every tiny lad appeared in a long coat all buttoned down before, like classic Old Grimes. To the casual observer the combination was of the kind known as "too sweet for anything." Very soon, babyhood at large erupted into long garments and large hats the instant it could walk. Not very steady on its legs, owing to its extreme youth, babyhood had a bad quarter-hour whenever the wind blew. The skirts of coat or gown wound themselves around the poor little shaky limbs, the hat went up and down on one side, or both, and life lost some of its legitimate joys. But babyhood was not to be thus undone. It grasped the hat firmly with both hands, kept its little head in as good a position as circumstances would allow, turned in its toes and tottered forward. In time, babyhood learned just how not to be jarred or knocked down by the wind—learned the lesson so well that the forward totter became its natural gait, to the destruction of grace, proper breathing, and muscular force. Some of these æsthetic babies are now just on the verge of approaching manhood and womanhood. They cannot breathe, stand, or walk well. They lack grace and firmness of movement. Certain energies were early sapped by a style of costume that transformed natural movements into contortions. The twig was bent and the tree deprived of the freedom that rational oversight can secure. This permanent totter has its admirers, like many other deformities in and out of savage lands.

A New England spinster of many virtues recently remarked, with kind intent, to a New York girl, brought up *sans* heels, *sans* long skirts, *sans* big hats, *sans* everything that could in any way impede the natural movements of the body: "You hold yourself a trifle too straight. The Boston young women bend a little forward."

Then hapless infancy must submit to another infliction, and that is, white as the prevailing tone of its surroundings, unmodified even by the blue that spares somewhat the tender eyes of foreign infants who are dedicated to the Virgin. The well-bred baby has a white gown, is wrapped in a white cloak, tucked beneath a white blanket, in a perambulator protected from the sun's rays by a white-lined parasol. This is also "too sweet for anything." In winter the dazzling white of the snow is added to the general glare, and the baby winks and blinks in discomfort and steadily acquires bad muscular habits. The only prescription for this particular cruelty is to compel the parents to recline with upturned faces in the full glare of the sun, underneath a dome of white, surround them for several hours with a sea of white objects, and gently bounce them over unfriendly curbstones if possible. One month of long garments and broad hats for the fathers would banish æsthetic dressing from babyland forever.

A LEPER COLONY IN FINLAND.

KUUSAMO is the name of a small town in Finland where leprosy has existed indefinitely, sixteen deaths from this disease having occurred there between 1774 and 1800, and twenty-two between 1801 and 1828. In an account of the settlement by Dr. L. W. Fagerlund, in the *Finska Läkaresällskapets Handlingar* for September, 1891, it is stated that the government, in 1767, sent to Kuusamo a physician, who was instructed to study the disease carefully and devise some remedy for its cure. His studies appear to have been barren of practical result, for in 1788 the chief medical officer of the district sent to the College of Medicine in Stockholm to inquire how his cases of leprosy should be treated. He was advised to use a decoction of wild rosemary leaves (folia rosmarini sylvestris) and also tincture of cantharides in doses of 12 to 30 drops. He was unable to overcome the malady by these means, and so in 1807 it was determined to isolate the sufferers, in order to prevent any further spread of the disease. A building was accordingly erected on a small island in Lake Kitkajärvi, and the lepers were removed thereto. Here they remained until 1845, often suffering from cold and hunger, in consequence of the neglect of those charged to carry wood and food for their use to the shore of the lake.

In 1845 the hospital system was abolished, and the medical officer of the district was instructed to visit the lepers twice a year in their own houses, and to report on their condition to the medical administrative body. These reports were made with regularity for twenty years and then ceased. In 1871 the physician reported that he was unable to find any more cases of leprosy in Kuusamo.

Between the years 1845 and 1865, during which period the semi annual reports were regularly presented, there were eleven cases of leprosy under observation. The evidence to be gathered from these reports as to the contagiousness of the disease is, as usual, indefinite and inconclusive. In one instance the disease appeared to have been communicated from a woman to her husband and to one of her children, and in another a young man seemed to have communicated it to his sister. On the other hand, two of the patients, who were poor and incapable of providing for themselves, were supported by the community, being passed along from one house to another after making a certain visit in each. No case of the disease was proved to have been caused by contagion spread abroad by these peripatetic invalids. Dr. Fagerlund discusses at some length the opinions held by different writers on this subject, but brings forward no new evidence for or against the theory of contagiousness, other than the meagre facts just cited.

A HINDU MEDICAL TREATISE.

THE writings of the Grecian fathers of medicine have always exercised a peculiar charm over students of medical history, by reason of the wonderful knowledge of disease which these ancient physicians possessed, despite the limited means at their command for investigation and

study. They were deep thinkers and logical reasoners, and though we can no longer look to them as guides they will always be reverenced by modern students, and their works will be read with interest and profit by scholars as long as the world endures. Indeed, it is a constant source of pleasure to turn over the pages of such a master as Hippocrates, and learn how many of the principles there laid down are current and accepted even now.

But original as these workers were, they were not the founders of the healing art, and much of their knowledge was derived from older sources—from the Egyptians and other nations of antiquity. It is only within a comparatively recent period that the seals which kept Hindu literature from the knowledge of the West have been broken, but we are beginning now to realize that here is another well of ancient learning from which the Egyptians, the Greeks, and the Arabs doubtless drank deeply. We may not find here the fountain head of medical knowledge, but we seem to be nearer the source than ever before, and it may be that this is as near as we shall ever be able to approach it. It is, at any rate, an interesting field for the labors of the medical historian, and one which it will repay him to cultivate.

An ancient Sanscrit treatise on medicine has recently been discovered in Kashgar, bearing the title of "Navanitaka," and written apparently about the fifth century of the Christian era. But a more ancient work than this is probably the Charaka-Samhita, a translation of which into English[1] has recently been undertaken by Abinash Chandra Kaviratna, a practitioner of the Hindu system of medicine in Calcutta.

The exact date when Charaka wrote is unknown, though, as he is mentioned in the Purānas and by Avicenna and Rhazes, it was doubtless at a very remote period. The Samhita, however, was not his own work, but was a composition of Agniveça, founded upon the Ayurveda (Science of Life), which latter, tradition relates, came from the self-create Brahma. Whatever the origin of the treatise, its antiquity is undisputed, and moreover it is the foundation upon which rests the modern system of Hindu medicine. While we may not be able to agree with Dr. Sircar, who observed in an introduction to an English translation of the first chapter of the work that "there is much in it that even an accomplished physician will profit by learning," it is, nevertheless, a most interesting treatise. We read in it of the methods of treatment which were doubtless followed by the Hindu physicians whom Alexander the Great retained among his followers to heal the diseases which baffled the skill of his Greek physicians, and by the physicians who, many centuries later, practised in Bagdad, under the patronage of Haroun al Raschid.

Pundit Abinash Chandra Kaviratna deserves the thanks of all English-speaking scholars for his labors in translating this work, and we hope that the results of his venture will be such as to encourage him to follow it up with a translation of Susruta Samhita, the second great Sanscrit medical treatise, and one which may be regarded as the companion to Charaka's, of which he has already published a Bengali translation.

[1] Charaka-Samhita, translated into English and published by Abinash Chandra Kaviratna, editor of Chikitsa-Sammilani, etc. Calcutta: Printed by D. C. Cass & Co. 1890.

News of the Week.

A Wealthy Hospital. — St. Luke's Hospital, of this city, appraises the land on which it stands at $2,500,000. If it sells at this price, and no doubt it can eventually do so, the hospital, with its present rich endowment, will be wealthy beyond the dreams of avarice and beyond appeals to charity. It is proposed to move the hospital up-town, in the neighborhood of the new cathedral.

A Pension Fund for American Nurses.—An attempt is being made to establish a national pension fund for nurses in this country. For this purpose a meeting was held in this city on Tuesday last, on invitation of Rev. George S. Baker, of St. Luke's Hospital. Mr. Henry C. Burdett, of England, the founder of the Royal National Pension for Nurses, who is Secretary of the London Stock Exchange, was present and explained the basis on which the English fund is operated. The English society has been in existence for about three years. An attempt has already been made to found an association in this country, and meetings have been held in Washington, Philadelphia, Baltimore, and Boston, looking to this result. A scheme has been drafted with the object of meeting the special difficulties under which nurses at present labor in regard to their savings, with a view to securing to a nurse adequate provision for the later years of her life, and assistance in temporary or permanent incapacity. The tables on which the scheme is based have been indorsed by the actuaries of the Mutual Life Insurance Company, of New York, which prepared them free of cost.

Dr. Jones's Case of Fever is likely to become historical. It was reported verbally before the Memphis Medical Society in May last. The doctor now gives us the written details in the *Memphis Medical Monthly*. The patient was a girl of fifteen, who had had an attack of tonsillitis during which she gained some experience with the clinical thermometer. After recovering from the tonsillitis, she was found one day to have a temperature of 109° F. During the next seven days her temperature ranged between 97½° and 152° F. The pulse never was above 120, and the fever did not appear to cause any serious discomfort. The temperatures noted at various times were 115°, 111½°, 138½°, 130° F. The temperatures were taken in the mouth, rectum, and axilla. A special Chicago thermometer was used, which like the other thermometers was eventually broken. It is difficult not to believe that the temperatures were caused by mechanical manipulation. Dr. Jones runs a pretty sharp race for the hyperpyrexia record with Dr. W. I. Galbraith, but the latter is as yet ahead, for his patient got up a fever of 171° F. But then she was twenty-three years old and married, while Dr. Jones's girl was only fifteen. We note that the effete monarchies of Europe can only produce records of a temperature of 114° F.

A Large Down-town Hospital.—It is reported that Chambers Street Hospital will be rebuilt and enlarged.

The Keeley Treatment for Inebriety.—The Keeley bichloride of gold treatment seems likely to prove as gigantic a "fake," and as interesting a psychological phenomenon, as the Keeley motor. There are being established Keeley institutes all over the country. Unhappy

victims of inebriety in this neighborhood are served with gold injections at a place in White Plains. Matters are not going entirely without friction, however. The death of a patient undergoing the "cure" has recently been announced; and lately we learn that a patient at White Plains, after being under treatment for four or five days, developed an attack of delirium tremens and came very near shooting several of his neighbors.

The International Congress at Rome.—A movement is on foot in St. Louis to charter a vessel and take over a party of medical men who wish to go to the Roman Congress. The vessel is to have a capacity of four hundred passengers, and the trip will last six weeks. Several places in the Mediterranean will be visited. Dr. N. Senn, of Chicago, is president of the association which is undertaking this project.

A New Cause for Dislocated Vertebræ.—A fourteen-year-old boy of Bethlehem, while playing foot-ball with a crowd of companions, was "held" by another boy having his knee on his neck. Result—dislocation forward of fourth cervical vertebra. This is, of course, the exception to the rule that foot-ball is a healthful game.

Dr. M. Rosenwasser was the name of the gentleman who took part in the discussion before the American Association of Obstetricians and Gynecologists, as apparent in our issue of October 10th, and not Dr. Rosenbaum, as erroneously printed.

German Dermatological Society.—It has been decided that the Third Congress of the German Dermatological Society shall be held at Vienna in the first week of September, 1893, under the presidency of Professor Kaposi. The meeting will take place in conjunction with the Second International Dermatological Congress, which is fixed for the same time and place. The latter congress was held for the first time in Paris two years ago. The Second Congress of the German Dermatological Society, recently held at Leipzig, was attended by one hundred and twenty-six members.

State Board of Medical Examiners—Minutes of the Question Board.—A meeting of the Question Board was held October 8, 1891, in the Regents' room of the State Capitol at Albany. The meeting was organized at 10.30 A.M. Present, Drs. Fowler, Moore, Searle, Wetmore, and Lewi, together with Dr. Watkins, Chief Clerk Gallup, and Mr. Boland, stenographer, of the Regents' office. On motion, Dr. Wetmore was elected Chairman, and Dr. Lewi, Secretary. The Committee immediately proceeded to arrange and revise the questions submitted. This work having been completed, it was moved by Dr. Searle that within a month four complete sets of questions be sent by each of the three sub-committees to the Secretary of the Board of Regents, on the subject of Therapeutics, including Practice and Materia Medica. Carried. It was moved, by Dr. Moore, that previous to printing the sets of examination papers, Dr. Lewi be requested to edit, arrange in logical sequence, and revise all questions to be submitted at the licentiate examinations. Carried. Meeting adjourned at 11.15 P.M., subject to the call of the Secretary of the Board of Regents.

Surgical Clinics at the New York Hospital.—Medical practitioners residing within a distance of, say, one hundred miles from New York, and desirous of attending the surgical clinics of the New York Hospital, will, by forwarding their names and addresses to the House Surgeon, Dr. Bolton, have mailed to them the regular operation notices.

Hypodermic Injections of the Juice of the Thyroid Gland have been found to act as a diuretic in myxœdema by Dr. Fenwick, and Dr. Murray has found that they modify the symptoms of that disease.

The Difference Between Man and Woman. — This perennially interesting subject has been scientifically treated by Dr. Harry Campbell, who points out, among other differences, the great recuperative power of women; they bear the loss of blood extremely well, and even the most sickly of them show an extraordinary power of fighting against exhausting diseases. Dr. Campbell says that he knows of few facts in biology more remarkable than this tenacity of life in women. Not in a few diseases merely is the mortality of the male sex greater than in women, but in almost all. The author's explanation of the fact is, that "men being more katabolic than women, and their nervous centres therefore more explosive, one would expect them to show the greater tendency to those disorders which are attended by an excessive expenditure of energy." The differences between the boy and girl in nervous organization are very marked. With the one exception of infantile hemiplegia, boys are more frequently affected than girls by idiocy, acute anterior poliomyelitis, pseudo-hypertrophic paralysis, meningitis, and epidemic cerebro-spinal meningitis. Girls are more frequently than boys affected by habit, spasm, and chorea. Suicide is much more common in boys than girls. If we are to regard—with Herbert Spencer—woman as to some extent an undeveloped man, we should expect the woman to resemble the child more than the man does, and this, Dr. Campbell believes, is the case.

The MEDICAL RECORD long ago pointed out the significant fact that between man and woman there is a *vas deferens*.

Fatal Cocaine Poisoning.—An English physician, Dr. Bright, of Bournemouth, recently died from an over-dose of cocaine.

The Secretary of the Iowa State Board of Health has made an official announcement that habitual inebriety on the part of a medical practitioner shall be held as "palpable evidence of incapacity," rendering the delinquent liable to the revocation of the certificate entitling him to practise in the State of Iowa.

A Medical Faculty at Constantinople.—It is announced that a Faculty of Medicine is about to be established at Constantinople, which will be the first institution of that kind founded in Turkey. The Sultan has sent Nafiliam Andan Pacha to Paris to collect information and to invite several representatives of the medical profession of France to proceed to Constantinople to assist in the organization of the new Faculty. His Majesty is said to take a keen interest in the matter, and he has already shown his zeal for the medical advancement of his country by introducing important reforms in the working and management of hospitals, not only in his capital, but throughout the whole of his empire.

The Georgia Law against Intemperance Among Medical Men.—*The Lancet*, referring to this subject, says: "We cannot defend the severity of the Georgian law, and our contemporary regards it as a deliberate insult to the practitioners of the State. A vice that has been so common, and withal so leniently regarded by mankind, is surely not to be treated, in a first conviction, so severely. The case is different where the vice is persisted in. Georgia is a State where there is almost an equal number of black and white citizens. It may either be that the vice is more common, or the belief in severe measures greater, than in other populations. In any case, while drunkenness is a vice to be discouraged, and even punished, by those that exercise discipline in the great profession of medicine, it is indefensible in a Legislature for one conviction to deprive a man of his professional status. The proper remedy for the State to adopt would be to reduce the number of competing medical schools which hold loosely the gates of the profession and which let in those who are unworthy, and out of this reduced number to constitute a Board who should have power to judge of the efficiency of schools and to exercise discipline over all admitted to the profession. A medical man who frequently gets drunk brings his profession into discredit, and his profession should have the right of judging him."

Honors to Virchow.—Virchow's seventieth birthday, which fell on October 13th, was celebrated, says the Berlin correspondent of the *British Medical Journal*, with much pomp and circumstance. So many congratulatory deputations had been announced that the Professor's house did not afford room for all, and the large banqueting hall of the Kaiserhof was therefore chosen for their reception. The first deputation to offer their congratulations was one from the Ministry of Public Instruction, headed by Dr. Bartsch, one of the chief officials of the Ministry. The next deputation consisted of the professors of the medical faculty, headed by the Dean, Professor August Hirsch. This deputation was followed by one from the Academy of Science, headed by Professor von Helmholtz. The deputation bearing an address from the Municipality of Berlin, presenting Professor Virchow with the freedom of the city, was headed by Dr. von Forckenbeck, the burgomaster, who referred in grateful terms to what the Professor had done to improve the health of the city. The address and the accompanying medal, sent by the scientific bodies of Great Britain, were presented by Dr. Semon and Mr. Horsley. Congratulatory addresses were also presented by the medical faculties of Amsterdam, Pavia, Kazan, Warsaw, Brussels, Stockholm, Moscow, St. Petersburg, Berne, Tokio, Upsala, Tomsk, and other places. The military surgeons, represented by Surgeon-General von Coler, and the naval surgeons, represented by Dr. Wenzel, also tendered their congratulations. After an interval of much-needed rest, Professor Waldeyer presented the gold medal, which has been subscribed for by Virchow's admirers in and out of Germany. A silver replica was presented to his wife, and bronze copies to each member of the family and to the scientific bodies which had contributed toward it. After the ceremony in the Kaiserhof Hotel a second meeting was held in the large hall of the Pathological Institute. Here an almost endless procession of learned bodies and other corporations, presenting gifts and addresses, defiled before Professor Virchow. The Berlin Medical Society, of which Professor Virchow is president, presented him with his portrait, painted by Professor Lenbach, the presentation being made by Professor von Bergmann. Next came deputations from the Berlin Society of Anthropology and Ethnology, the students of the University, the Physicians, the public hospitals, the medical journals, and various other bodies. Dr. Adolph Meyer presented a plant recently discovered by Baron Muller, of Melbourne, in the heights of the tropical mountains of Australia, which the discoverer had named the "Virchow plant." The proceedings, which had been commenced at 10 A.M., came to an end at 4.30 P.M. In the evening a commers, or reunion, of the friends of Professor Virchow was held in Kroll's Theatre, at which speeches were delivered by Herr Eugen Richter, leader of the Radical party, and others.

Despite all this glorification, Emperor William has refused to recognize Virchow by the bestowal of any honors.

Report of the Surgeon-General of the Army.—In his annual report Surgeon-General Sutherland shows that while the number of sick reports was larger than during the previous year, the number of men constantly sick—42.71 per 1,000—compares favorably with 44.12 in the previous year. The cases of treatment of alcoholism numbered 40.73 per 1,000 for the army, as against 41.43 in 1889, and 56.68, the average during the previous decade, and in this connection the Surgeon-General notes with satisfaction that so many of the larger posts are at the lower end of the list. A great improvement in the diet of the men has been made within the past year. The complaints concerning clothing were not so numerous as heretofore. Treating in detail the subjects of alcoholism the report says that drunkenness is on the decrease. The colored soldier is seldom on the sick-list from this cause. Every medical officer who refers to the canteen system approves of it, with the exception of one. From Fort Niagara, N. Y., the report comes: "A remarkable change has taken place in the habits of the men as to sobriety since the establishment of the canteen. Signs of intoxication are rarely seen and the guard-house is without occupants. Nearly all of the other reports are to the same effect; and, on the other hand, the commandant at Fort Leavenworth notes an increase in the number of cases of alcoholism since the sale of beer in the canteen was stopped." The canteen has relieved our military posts of one-third of the cases of alcoholism that formerly tended to the demoralization of the individual, infraction of discipline, assaults, injuries, and deaths. In conclusion it is recommended that at each post there be established a systematic course of athletic exercises to improve the physique of the men, as this does not follow from military drills.—*Boston Medical and Surgical Journal.*

German Spas.—The following are the numbers of visitors reported at a few of the German watering places during the past season: Aachen, 33,155; Colberg, 7,787; Elster, 4,621; Landeck, 2,394; Nauheim, 8,455; Oeynhausen, 6,148; Reinerz, 3,388; Salzbrunn, 3,548; Soden, 1,226; Sylt, 7,411; Wildungen, 3,438.

Reviews and Notices of Books.

A Short Manual of Analytical Chemistry, Qualitative and Quantitative, Inorganic and Organic. By John Muter, M.A., Ph.D., F.R.S.E. First American, Fourth London Edition. Edited by Claude C. Hamilton, M.D., Ph.G. 8vo, pp. 204. Philadelphia: P. Blakiston, Son & Co. 1891.

The American student of chemistry will feel under obligations to Dr. Hamilton for the admirable manner in which he has edited Dr. Muter's work, adapting it to the needs of practical chemistry on this side of the Atlantic. The method, arranged on the principle of the course of instruction given at the London School of Pharmacy, has been conformed to the requirements of the United States Pharmacopœia. The chapter on urinary analysis has been enlarged and illustrated. The chapter on water analysis has been altered to correspond with Franklyn's methods, which are in use in this country. The detail arrangement of the text-book is most excellent, and its practical methods are in every way commendable.

Regional Anatomy in Its Relation to Medicine and Surgery. By George McClellan, M.D., Lecturer on Descriptive and Regional Anatomy at Pennsylvania School of Anatomy, etc. In two volumes. Vol. I., 4to, pp. 418. Philadelphia: J. B. Lippincott Co. 1891.

The author in the first volume of a valuable work has proven quite successfully the interest that can be infused into the study of a comparatively dry subject by the adoption of a somewhat original plan of presentation. As the title indicates, the different regions of the body are considered by themselves and viewed as a whole in the varied relations of component parts. He rightly considers that this is the only method by which anatomy should be studied by the advanced student. To this end he faithfully and laboriously made three hundred or more dissections of these regions, and reproduced many of them in carefully colored plates. His selection of parts has been eminently judicious, and demonstrate in a satisfactory manner the salient points for study and comparison. In the present volume the upper regions of the body are considered in detail, each showing different relations of organs in given planes of dissection. The medical and surgical landmarks are brought out quite clearly, thus offsetting the dry memorizing of names, with the practical knowledge of their significant relations in medical investigation and their relative importance in surgical operations. The plates themselves are of singular excellence, focussing every photographic detail of the actual dissection.

The author's practical method of treating his subjects cannot be too highly commended. His pages are full of valuable hints which cannot fail to be appreciated by the careful student who may seek to perfect himself in a study which lies at the foundation of all accurate knowledge of medicine or surgery. The book is well printed on fine paper, and with the superb illustrations makes a model volume.

Report on Cholera in Europe and India. By Edward O. Shakespeare, A.M., M.D., Ph.D., of Philadelphia, United States Commissioner. 4to, pp. 944. Washington: Government Printing Office. 1890.

The author of this exhaustive report was appointed in 1885 a commissioner of the United States by President Cleveland to study cholera in Spain and other countries where it was then prevalent, with a view of obtaining such data as might serve in preventing an invasion of the disease in this country. As a result of his labors in Sicily, Spain, and India he has given us an account of the disease which in practical value and scientific interest has never been equalled. It would be useless to attempt even an outline of the work, covering as it does nearly a thousand closely printed quarto pages, copiously illustrated with chromo-lithographic illustrations of infected areas, schematic charts, micro-photographic studies of bacilli, and elaborate tabular statements digested from hundreds of official reports graciously placed at his disposal by foreign scientists. Suffice it to say, however, that the study of the disease based upon such exhaustive data will serve to settle many points connected with its etiology, pathology, and prevention which have heretofore been open to more or less question. To summarize some of the more important conclusions would be all that is necessary in introducing this valuable report to the attention of our readers. It has been shown that the comma bacillus is the infecting agent, and is capable of being carried long distances by means of soiled clothing and other personal effects, and must be conveyed to the system of another through the gastro intestinal tract, either by contaminated water, uncleanly hands, or infected food. There is no proof that it can be communicated through the lungs, and is therefore not contagious in the ordinary sense of that term. It is also shown that a certain susceptibility of the individual is necessary, and that its further spread can be prevented in the incipiency of an epidemic by careful isolation of the individual and prompt disinfection of the discharges. These and many other points are exhaustively elaborated throughout the report, and for any student of the subject nothing is left to be desired.

Index Catalogue of the Library of the Surgeon-General's Office, United States Army. Authors and Subjects. Vol. XII. *Reger-Shuttleworth.*

This volume includes 20,251 author titles, representing 8,022 volumes and 18,090 pamphlets. It also includes 6,603 subject titles of separate books and pamphlets, and 18,956 titles of articles in periodicals. It is equal in size and value of material to any of the preceding volumes, and is, as it should be, still under the editorial supervision of Dr. Billings.

Scientific Medicine in Its Relation to Homœopathy. By Professor Theodor Bakody, M.D., of the Buda-Pesth University. Pp. 60. Philadelphia: Boericke & Tafel. 1891.

This address was originally written for the laity, but the author unintentionally has branched out into the discussion of several important points in modern therapeutics. The special topic dominating the address is as to whether the tuberculin inoculations are or are not Hahnemannian in method. He finds some points of similarity therein, but there are many points of difference as well. The position of the writer may be defined as that of a scientific physician with homœopathic inclinations, though not ready to accept the system in its entirety. The address is well written and will repay careful reading.

Diseases of the Nasal Organs. By Whitfield Ward, M.D. Pp. 165. New York: G. P. Putnam's Sons. 1891.

A Manual of Diseases of the Nose and Throat. By Procter S. Hutchinson, M.R.C.S., etc. Pp. 127. Philadelphia: P. Blakiston, Son & Co. 1891.

Both of these manuals belong to the class of publications intended "to relieve the busy practitioner," etc., and are both without any originality if we except a few cuts of modifications of instruments. The latter manual is more fragmentary in description while covering more ground. It is hard to know exactly what to say about books of this kind, which are fairly showered upon the market at the present time. They are all alike. They are compilations from larger treatises spiced with a little of the writer's experience. They are as orthodox as the average sermon. Somebody must buy them or else the supply would fall off. We suspect that the medical student is the buyer in the majority of cases, for no conscientious practitioner would ever content himself with such meagre works as make up this class.

A Manual of Practical Hygiene. By the late Edmund A. Parks, M.D., F.R.S., Professor of Military Hygiene in the Army Medical School. Eighth Edition. Edited by J. Lane Notter, M.A., M.D., Fellow of the Chemical Society; Fellow of the Sanitary Institute of Great Britain; Member of Council of the College of State Medicine; Professor of Military Hygiene at the Army Medical School, Netley. Philadelphia: P. Blakiston, Son & Co. 1891.

It is an encouraging sign of the growing interest in the science of hygiene that its literature is ever increasing. Journal articles appear with more and more frequency and the publication of a new treatise on the subject is no longer rare. Yet in the rivalry of new works on the art of preserving health Park's "Hygiene" holds its own as a standard treatise, and the appearance of a new edition will be welcomed by many old friends. Dr. de Chaumont, the editor of three editions previous to this, died in 1888, and the revision of the work has been placed in the hands of Dr. Notter. All who examine the book carefully, as we have done, will agree with us that he has done his work well, and that the high standard taken in the first edition is fully maintained in the present. The work has been brought fully up to the times, and this is saying much in these days of rapid progress in sanitary science.

Massage for Beginners; or, The Masseuse's "Vade Mecum." By Lucy Fitch. Pp. 32. London: Sampson Low, Marston & Co.

This is No. 4 of the "Nursing Record Series," and contains simple and easy directions for learning and remembering the different movements made use of in the art. The book should be in the hands not only of professional manipulators but also in those of all nurses.

Wood's Medical and Surgical Monographs for August. Contents: "Modern Abdominal Surgery," by Sir T. Spencer Wells, Bart.; "Subjective Noises in the Head and Ears, their Etiology, Diagnosis, and Treatment," by H. MacNaughton Jones; "Notes on Surgery, for Nurses," by Joseph Bell, M.D.; "Surgical Treatment of Typhlitis," by Frederick Treves, F.R.C.S. Pp. 253. Price $1. New York: William Wood & Co., 56 and 58 Lafayette Place.

No more valuable and timely work has appeared in "Wood's Monographs" than this one. The two articles on abdominal surgery are worth several times the price of the book. Sir T. Spencer Wells discusses anæsthesia, drainage, uterine tumors, enterectomy, oöphorectomy, Cæsarean section, Porro's operation, and the surgery of the kidney, liver, and gall-bladder. His paper is the work of a master, and admirable in every respect. No less worthy of warmest praise is the article on "Typhlitis," by the famous surgeon, lecturer, and author, Frederick Treves. The two remaining essays will interest and be of immense value to the classes for whom they are respectively written. Dr. Jones's work on "Noises in the Head and Ears" is a masterly one, complete, scientific, and most excellently written.

Norris's Nursing Notes. A Manual of Medical and Surgical Information for the Use of Hospital Nurses and Others. By Rachel Norris, R.R.C., Late Acting Superintendent of Royal Victoria Military Hospital at Suez, and formerly Matron to St. Mary's Hospital, W. Pp. 184. Illustrated. London: Sampson Low, Marston & Co.

This book is the second of a most excellent series for nurses, being issued by the English journal *The Nursing Record*. All are good, but the one in hand is of unusual value to nurses. It contains Anatomy, Physiology, Surgery—in short, it is a storehouse of necessary information that can be obtained elsewhere only with great difficulty and long research. The anatomical illustrations are good.

Society Reports.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Seventeenth Annual Meeting, held in St. Louis, Miss., October 14, 15, and 16, 1891.

First Day, Wednesday, October 14th.

The Association convened in the Pickwick Theatre, and was called to order at 10.30 A.M., by Dr. I. N. Love, Chairman of the Committee of Arrangements.

Prayer was offered by Bishop D. S. Tuttle.

The Address of Welcome was delivered by Hon. E. A. Noonan, Mayor of St. Louis, which was followed by addresses on the part of the State Medical Association by Dr. W. B. Outten; the St. Louis Medical Society, by Dr. Ludwig Bremer, its President, and remarks by Drs. Harold N. Moyer, and J. C. Culbertson, of Chicago.

After the report of the Chairman of the Committee of Arrangements, which was an interesting and attractive one, Dr. C. H. Hughes, of St. Louis, took the chair, and declared the Association ready for the transaction of its scientific work.

The Toxic Effect of Tobacco Vapor, with Report of Cases, was the title of the first paper, read by Dr. W. Carroll Chapman, of Louisville. He said that usually the presence of tobacco poison in the systems of tobacco workers is manifested during the first day or two by violent vomiting, retching, purging, and often a state of collapse, after which the system may become inured to it. Occasionally we find one whose constitution, even by contact and time, although there is a certain amount of toleration, refuses to receive it kindly, and emaciation begins, attended, sooner or later, by such symptoms as the following case illustrates:

Case I.—Willie C——, aged ten, was found suffering extreme pain in the abdominal region, with the intensity centring at the umbilicus. Temperature, under the tongue, 100° F.; pulse, 108, small, wiry, and irregular; respiration, 20 to 22, but irregular—several short, shallow respirations, followed by one deep and gasping. Tongue glairy, red appearance, and pointed. Patient constipated for the last several days; abdomen flat, or rather depressed; urine scanty, and slightly colored; skin dry, as were the hands and feet, the latter being a little cold. When near the patient the odor of tobacco was so pronounced that the doctor made inquiries regarding it, and learned that he worked in a tobacco stemmery, and further, that he had slight attacks of similar pains at several different times, except of milder form.

As to the nicotianin, indications point strongly to its being a cause. According to Landerer, it occurs only in dried tobacco leaves, and has the odor of that plant; a point strongly in its favor, as that odor was so distinct in every case the author had seen. It would seem, further, that the basic substances and fatty acids were causative agents, because authors have proven, by physiological experiments, that these cause contraction of the pupil, dyspnœa, abdominal pains, convulsions, and death.

The author directed attention to two factors, noticeable in all the cases, namely—the emaciation, and the time each one had followed the occupation, that is, from six weeks to three months. The three cases which he reported had not suffered from the vomiting and retching usually attendant upon young tobacco-workers the first day or two. In the other, or milder cases, he neglected to inquire regarding that point.

The toxic effect of tobacco vapor and its treatment was a subject worthy of more consideration than the profession has accorded to it in the past, and he hoped that the next few years, aided by diligent and careful investigation, would place the matter in a more intelligent light.

The Treatment of Typhoid Fever was the title of a paper read by Dr. Robert C. Kenner, of Louisville,

Ky., in which he directed particular attention to the cold-bath treatment.

Pelvic Inflammation in Women; A Pathological Study.—Dr. William Warren Potter, of Buffalo, followed with a paper on pelvic inflammation, in which he held that these and their residues constitute about one-third of the diseases that gynecologists treated. hence the importance of frequent discussions of all moot questions relating to the subject. He briefly reviewed the anatomical relations of the pelvic organs, calling attention to their enormous blood and nerve supply, which became both their weakness and their strength. He contrasted the pathology of Bennet (1843) with that of Emmet (1873), and the latter with the teachings of Price, Tait, Hegar, and McMurtry, of the present age. He referred to the pathological studies of Bernutz and Goupil, of thirty years ago, and affirmed that the observations of the present had served to confirm the correctness of those pioneers.

He next asserted that the pathology of to-day had been established by operative surgery, which had shown that pelvic inflammation begins in the tubes or ovaries and extends to adjacent structures through absorption or by contiguity; that it almost never begins in the cellular tissue, but may be carried there through the tubes and ovaries, by infections, either specific, puerperal, or traumatic. He affirmed that the inflammation was in most cases a peritonitis, intra pelvic or local in character, and not a cellulitis; that para- and perimetritis were misleading and confusing terms, hence, should be dropped; and that the so-called pelvic abscess was a sequence of salpingitis, ovaritis, or peritonitis, not a primitive accumulation in the areolar tissue itself.

The tentative management in these cases—rest, counter-irritation, hot sitz-baths, vaginal douches, and attention to the digestive organs and general health—resulted in only temporary improvement, or in cure in a very small percentage. Those reported cured were generally, if the history could be known, subject to repeated relapses; and a frequently recurring pelvic peritonitis usually indicated leaky tubes. Electricity, too, had disappointed even its most sanguine advocates, and need not be considered.

In conclusion, he asserted that if these views be accepted the logical deduction was to watch the early manifestations of the disease carefully, that competent surgical skill be invoked before the damage to important structures becomes too great to justify the expectation of successful operation.

Pathology and Surgical Treatment of the So-called Strumous Inguinal Lymphadenitis.—Dr. L. T. Riesmeyer, of St. Louis, read a paper with this title. The author adopted the view of Culvert and Klotz, that the majority of cases known under the name of strumous buboes, indolent sympathetic buboes, hyperplastic lymphadenitis, etc., are caused by the absorption of pyogenic material and are not due to scrofula, tuberculosis, or syphilis. Out of the forty-three cases which he reported, the majority had been suffering from a gonorrhœa six months to five years before they presented themselves. Three patients had chancroids, and one a syphilitic chancre a number of months before they came to be treated for the lymphadenitis. In five cases the swelling of the groin was attributed by the patient to the lifting of a a heavy load, while for the rest no cause was ascertainable.

As a rule, the patients came during the later stages of the disease and presented the following symptoms: Face pale and ash-colored, loss of appetite, a tired feeling, pains in the limbs, chilly sensations alternating with sensations of heat, night-sweats. Temperature varying between 100° and 102° F. Upon examination a large, nodular tumor, irregular in form, often fluctuating at one or more points, was found in one or both groins. The skin covering the tumor was, in contra-distinction to the virulent bubo, of a livid blue color, and is not unfrequently perforated by one or more fistulous tracks. There was usually but little pain upon pressure. In all cases the glands contained a great many miliary abscesses, otherwise only showing a hyperplasia of the connective tissue and medullary lymphatic tissue. Of micro-organisms staphylococci and streptococci were found. Hypertrophied lymphatic vessels ran over and through the substance of the glands.

In some cases the glands presented one large fungous mass, in which no individual glands could be made out. The time of development into the tumor, as described, varied between six months and three years. No tuberculosis was found among the cases, and after the operation the patients presented a strong and healthy appearance.

The glands should be removed before the pus has broken through the capsule, otherwise the patients are exposed to many dangers.

To extirpate the glands, the method recommended by Poelchen, of first exposing the internal saphenous vein by a vertical incision and dissecting along this vessel, leaving it intact upon the fascia lata, is the most rational. The glands are in this way removed quickly and without endangering the femoral vessels. In conjunction with Dr. L. P. Pollman, the author of the paper has had occasion to locate this vessel topographically. After determining the location of the femoral artery, the internal saphenous vein is found exactly at the point of junction of the external with the middle third of a straight line connecting the pubic spine with the point of intersection of Poupart's ligament with the femoral artery.

Second Day, Thursday, October 15th.

Gastrostomy for Impermeable Stricture of the Cardiac End of the Œsophagus—Recovery—Subsequent Dilatation of the Stricture.—This was the title of a paper read by Dr. Arch. Dixon, of Henderson, Ky.

On July 14th of the present year Dr. Thomas W. Taylor consulted him in regard to a patient who was unable to swallow anything save liquids. Examination by means of œsophageal bougies revealed the fact that complete stenosis of the œsophagus existed at the cardiac end. Operation was at this time declined. Again on July 29th the patient consulted him, and after persistent effort he failed to pass the stricture with the smallest bougie. The operation was now consented to, and on August 4th, assisted by Drs. John Young Brown, W. M. Hanna, W. S. Stone, A. J. Lieber, and T. W. Taylor, Dr. Dixon did a gastrostomy after Hacker's method. When the stomach was reached a fold was caught between the fingers and partially drawn through the wound, where it was held by a silver pin, care being taken that the pin pierced the mucous membrane, as suggested by Weir, thus forming a support for the stomach in the wound and serving as a guide when the opening should be made into it to show that the cavity was reached. The peritoneal coat of the stomach was now stitched to the parietal peritoneum by a continuous suture which on either side of the wound included the skin. The peritoneum above and below was brought together by interrupted sutures, which embraced muscle, fascia, and skin as well.

The wound was now covered with iodoform collodion, over which iodoform gauze was placed, confined by adhesive strips. The opening into the stomach was purposely deferred until adhesions should have formed. On the morning of August 7th, the dressing was removed, a few drops of cocaine were injected into the fold of the stomach which protruded through the wound, and the gastrostomy was completed by cutting down upon the pin with a tenotome. As in Weir's case, the presence of the pin was a valuable guide in showing beyond question that the cavity of the stomach had been entered. There was no hemorrhage of moment. The adhesions being firm, the pin was withdrawn and the mucous membrane was drawn up and stitched to the skin. A rubber tube was

now passed into the stomach through the opening, fitting it snugly. The wound was dressed with iodoform gauze and borated cotton. Peptonized milk, half pint, with a teaspoonful of Mosquera's beef meal, was now injected through the tube into the stomach by means of a large syringe. An ordinary spring clothes-pin was used as a clamp for the tube. Six hours later another half pint of milk with the beef-meal was thrown into the stomach, the patient experiencing a satisfaction which had not been felt previously from the use of nutritive enemas. The temperature at 8 P.M. reached 101° F., but at 10 A.M. on August 8th it had again fallen to normal. The feeding was continued at intervals of six hours, the food being varied in character—chopped meat, eggs, bread, etc. The patient had an aversion to brandy, and would take no stimulant of any character. Improvement was steady, and in ten days the patient was out of bed.

On August 29th, twenty-four days after the primary operation, Dr. Dixon determined to try dilatation, and was agreeably surprised to find that the smallest size olive-pointed bougie entered the stomach, passing the stricture without difficulty, a size larger was now used and it passed also without force. The following day a large stomach-tube was passed down the œsophagus and with little difficulty entered the stomach. Dilatation was continued at intervals of a few days. From liquid food the patient soon essayed some solid food, and on September 10th took his first square meal, which consisted of oysters, broiled beefsteak, coffee, eggs, and bread. On September 23d the patient complained again of difficulty of swallowing solid food; especially was there difficulty in swallowing bread. The bougies passed the stricture easily on entrance, but on withdrawal there was a decided hitch, even the smallest bougie was caught slightly when withdrawn. Dr. Dixon at first attributed this to spasmodic action, but the difficulty grew greater and greater, until finally he could no longer enter the stomach by way of the œsophagus with a bougie. Liquids could still be swallowed and found their way into the stomach. He now determined to try retrograde dilatation, and on September 30th, assisted by Dr. John Young Brown, he succeeded in finding the cardiac end of the œsophagus and entering it with a very small bougie-à-boule. The opening was about the size of a very small shirt-button hole, and felt much like the meatus urinarius in a girl; it was surrounded by a hard tissue, feeling much like a fibroid. A uterine sound was next properly bent, and with the finger as a guide, passed into the œsophagus; this was followed by a uterine dilator, slight pressure on the handles opened the blades almost half an inch, but the patient experienced so much pain that it was deemed best to desist. The following day chloroform was administered and retrograde dilatation was accomplished.

Up to this time the author had not been able to determine whether the stricture was due to malignant trouble or not, but on passing the finger into the non-dilated œsophagus, a friable irregular growth was detected, which easily broke down and bled rather freely. Since the dilatation the patient has been able to swallow solid food without much difficulty, and has notably improved in flesh and strength, and is able to attend to some business.

The author wished to acknowledge his indebtedness to Dr. Robert F. Weir, of New York, for many valuable suggestions, both in the performance of the operation and in the management of the case afterward, gleaned from his report of a similar case published in the MEDICAL RECORD, July 25, 1891.

Dr. Dixon also exhibited the patient to the Association.

DR. L. CH. BOISLINIERE, of St. Louis, exhibited a new obstetric forceps of his own design.

The Influence of Graveyards on Public Health.—DR. J. W. CARHART, of Lampasas, Tex., contributed a paper on this subject, in which he drew the following conclusions: 1. From whatever stand-point this subject is approached it must be with care and gentleness, since the graveyard, though a constant menace to public health, has a pseudo-sacredness fostered by the profoundest sentiments of our natures. 2. The method of the disposal of the dead should be founded on reason and not on custom or sentiment. 3. The interment of the dead in the earth was never enforced by a statute, Jewish or Christian, and was merely incidental to both dispensations. 4. No law, human or divine, requires us to dispose of the dead in a manner prejudicial to the health and comfort of the living. 5. While it may be an open question as to the right of the State to decide as to the manner of the disposal of the dead, except in exceptional cases, it is clearly the province and duty of the State to prevent such disposal as will in anywise jeopardize the interests of the living. 6. From all the facts at our command, we are led to the conclusion that the graveyard should become a thing of the past, and that incineration is the method most in accordance with science, sanitation, æsthetics, reason, and religion. 7. We would add, as a corollary to these several conclusions, that since the intelligent, broad-minded physician is the almost exclusive guardian of public health in seeking to prevent the development and spread of disease, it is plainly his duty, when cemeteries are being located, to use his best endeavors to have them so placed as to jeopardize as little as possible the public health; and for its moral effect he should encourage efforts to beautify existing cemeteries; and that he should seek, as fast as possible, without too much violence to the tender sensibilities of the masses, to encourage incineration of the dead, or some other method more in harmony with sanitary science than the common modes now practised.

Dr J. T. Jelks, of Hot Springs, Ark., read a paper on "Blennorrhœa;" Dr. Landon Carter Gray, of New York, one on "The Present Aspect of Cerebral Surgery," in which he epitomized the work of Horsley, Ferrier, Keen, and others; and Dr. John A. Larrabee, of Louisville, Ky., one entitled "The Importance of Recognizing a Temporary Rachitic Condition in Infants."

Pachymeningitis Hæmorrhagica Interna.—DR. F. C. HOYT, of St. Joseph, Mo., read a paper with this title, in which he suggested the following deductions, offering them as a practical and rational view of the subject: 1. That the disease known as pachymeningitis hæmorrhagica interna chronica is not a disease of the dura mater primarily, and not necessarily at all. The name is therefore a misnomer, and the simpler term sub-dural hæmatoma should be substituted. 2. That the condition is due primarily to paralysis or loss of the normal vaso motor tonus, associated with structural changes in the cerebral vessels, particularly those of the pia mater. 3. That hemorrhage may, and often does, take place in the substance of the dura from the causes stated in the paper, but that its vascular supply and anatomical structure render it improbable that these hemorrhages play any part in the formation of a sub-dural hæmatoma. 4. That the hemorrhage occurs from the vessels of the pia mater primarily, forces its way without difficulty through the upper web-like layer formerly called the arachnoid, escaping into the sub-dural space. The extravasated blood becomes organized, new vessels are formed, and these assist in furnishing the recurrent hemorrhages. 5. That the inflammation of the internal surface of the dura mater is secondary and due to the irritation of the extravasation, and then is not general, but occurs only in patches where organic union has taken place.

Camphor-menthol in Catarrhal Diseases.—DR. SETH S. BISHOP, of Chicago, reported a large number of cases of naso-pharyngeal catarrh, hay fever, and diseases of the ear as having been treated with camphor-menthol with much better results than menthol alone produces. The presence of the camphor appeared to intensify the action of menthol. A number of hay-fever sufferers had obtained greater relief from this inhalant than from any other they had ever tried. The effect of the camphor-

menthol in reducing turgescence and consequent tumefaction of the turbinated bodies rendered a contemplated operation for stenosis unnecessary in several cases cited.

In some cases of constricted Eustachian tubes injections of a ter per cent. solution in lanolin had caused them to become patulous. The improved ventilation of the middle ear thus effected, together with inflation with a five or ten per cent. spray of the same liquid in hypertrophic tympanic catarrh, increased the hearing and produced a sense of clearness and comfort in the head. Cases of laryngitis with the voice reduced to a whisper were treated with inhalations varying from five to twenty per cent. in strength, with the result of restoring the voice completely in from twenty-four to forty-eight hours. No ill results had followed the use of this remedy in the nose, throat, larynx, or middle ear. The ordinary strength of inhalations recommended by Dr. Bishop were three or five per cent., for very susceptible or sensitive individuals like hay-fever patients, and ten per cent. for less nervous persons with hypertrophic catarrh, etc. In order to reduce great swelling of the turbinates and relieve stenosis the solution should consist of twenty or twenty-five per cent. of the camphor menthol. The full strength of camphor-menthol applied to eczematous eruptions relieved the itching and dissipated the redness and swelling. Similar results followed its application to herpetic eruptions. Finally, camphor-menthol contracts the capillary blood-vessels of the mucous membrane, reduces swelling, relieves pain and fulness of the head, or stenosis, arrests sneezing, checks excessive discharges, and corrects perverted secretions.

Dr. F. King, of New York, read a paper in which he advocated the poro-plastic felt jacket in the treatment of spinal troubles.

President's Address.—At the evening session the Association was called to order by the Second Vice-President, Dr. S. S. Thorn, of Toledo, O., after which President Hughes delivered his address on "Medical Progress." He reviewed the history and progress of medicine and surgery. He said it was gratifying to the humanitarian student of scientific medicine to note the amazing progress lately made in the knowledge of the human organism and in resources for its regulated control in health and disease. He referred to the wondrous laparotomies of Tait; the brilliant craniotomies of Victor Horsley; and the abdominal sections of Senn. He said the memory of Harvey, Jenner, Jackson, McDowell, and a host of others, is not yet fully appreciated by the world at large. But their deeds will shine brighter and brighter as the world comes to know them and fully realize, as we do, their incomparable benefactions, their unsurpassed greatness, and their unequalled heroism.

Dr. J. B. Hamilton, of Chicago, followed with an address on "The Drainage of Chicago," in which he principally dwelt upon its topography.

Dr. Joseph M. Mathews, of Louisville, then delivered an entertaining and humorous address on the "Lights and Shadows of a Doctor's Life." The address was punctuated throughout with great applause, and was a relief to the laity after listening to the profound, scientific, scholarly addresses of the preceding speakers.

At the close of the session the members repaired to the Lindell Hotel, where a banquet was given with all the manifestations of true St. Louis hospitality.

(To be continued.)

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting October, 1, 1891.

Alfred L. Loomis, M.D., President, in the Chair.

Library Donation.—The Academy accepted, with thanks to the family, the gift of the medical library of the late Dr. Fordyce Barker.

The Enlarged Prostate and its Surgical Relief.—Dr. Edward L. Keyes read the paper (see p. 525).

Dr. Samuel Alexander propounded two questions: 1. Why did operations upon the prostate, removing the obstruction at the neck of the bladder, restore, when there was vesical atony, voluntary urination? 2. Why did the author consider chloroform the best anæsthetic? He had performed four perineal operations, and most of them were unsatisfactory in that he could not remove a sufficient quantity of the obstruction from that direction. By using the écraseur in the manner suggested by Dr. Keyes, perhaps one would find operating through the perineum more successful. Another excellent suggestion contained in the paper was the use of the rongeur forceps in the suprapubic operation. In one of the two cases in which he had cut above the bone, the prostatic tissue was so hard and difficult to get at that he could not remove what he wished by the usual means, and he felt sure the rongeur forceps would have helped him out of the difficulty. He was glad the author had given us full warning of the dangers of the operation, which he had himself not so fully realized before.

Dr. L. Bolton Bangs said he had many times asked himself the question whether he ought to propose to his patients, old men, an operation on the prostate, with the hope of obtaining the relief from many troublesome symptoms which successful prostatotomy often gave, and he had answered in the negative; that he would attempt to make them comfortable by other measures, because of the risks and death-rate of operative procedures. Still, there were cases which required an operation, and the indications for the one or the other methods had been well pointed out by Dr. Keyes. He thought, however, that further consideration would have to be given the question whether cases should not be operated upon earlier. The period at which the operation was undertaken would probably have some influence on the mortality. He, too, appreciated the valuable remarks of the author on the technique of the operation.

Dr. John A. Wyeth had operated only by the suprapubic method. He made a vertical incision, very seldom a cross incision, over the pubic arch. He agreed with the author as to the uselessness of perineal drainage; said that in the twenty-four cases which he had operated upon he had employed siphon drainage with entire satisfaction after he had learned how properly to use it. In preparing the patient he made it a rule to sterilize the urine by administering five or six drops of the oil of gaultheria several times a day for two days.

Clings to Ether.—Dr. Wyeth could not understand why Dr. Keyes should now pass to the use of chloroform, an anæsthetic which the English were only just discarding to such an extent for the use of ether, the latter having been the favorite agent in America for so many years. It was not until recently that he had learned how to use ether in a way to get the maximum benefit out of the least quantity. No one, he thought, would discard it for chloroform, except in special conditions, after having once employed the Armstrong inhaler.

He thought suprapubic prostatotomy was not so dangerous as the paper would lead one to think. The danger arose from the condition the patient was in, rather than from the operation. But even in almost moribund subjects it offered a chance of restoring the patient to health, as in one instance which he mentioned, that of a man who had been confined abed for two years.

Dr. Keyes said he was unable to satisfactorily answer Dr. Alexander's first question. Regarding the second question, why he used chloroform, it was because in so many of these cases there was a pathological change which had extended to the kidney. Although the bladder walls might be thick, apparently hypertrophied, it was not a compensating, but a degenerative process. Chloroform was safer not only because less injurious to the kidneys, but also on account of the liability of ether to set up a bronchitis or pneumonia in this class of subjects.

Therapeutic Hints.

Carbolic Acid in Rheumatism. — Dr. J. L. Hancock writes in the *North American Practitioner* for September, 1891, upon the good effects of carbolic acid locally applied in the treatment of acute articular rheumatism. He uses it in the form of a four per cent. solution applied warm on a piece of flannel wrung out and enveloping the joint. This application is made at night, and allowed to remain until morning. It has given good results in the writer's hands.

Vaccination for the Relief of Whooping-cough.—Dr. Emile Müller reports in the *Gazette Médicale de Strasbourg*, No. 7, 1891, the case of a young child suffering from pertussis, in whom a cure was obtained by means of vaccination. Dr. Cachazo (*Wiener Medizinische Blätter*, October 16, 1890) had previously noted the favorable influence of inoculation with vaccine material in a case of whooping-cough under his care, and subsequently employed the method in four other cases with great success.

A Snuff for Acute Coryza.—Tissier recommends the use of the following snuff for the relief of a cold in the head:

℞. Menthol ..... gr. vj.
Powdered boracic acid ..... ʒ ij.
Subnitrate of bismuth,
Powdered benzoin ..... āā ʒ iij.

A good-sized pinch of this may be snuffed up five or six times a day. If desired, one grain of morphine and half a drachm of calomel may be added to the mixture, the addition apparently increasing its efficacy in certain cases.

Glycerine in Burns.—Grigorescu says that the application of pure glycerine to a burn relieves effectually and promptly the pain, and also favors a rapid healing. The sooner the application is made after the burn has been received, the more noticeable are the results. At first a slight smarting is felt, but this soon passes off and is succeeded by an almost entire freedom from pain.

Potassium Iodide in Chorea.—Dr. C. Semening reports in the *Allgemeine Medicinische Central-Zeitung*, No. 77, 1891, the case of a child suffering from marked chorea, which had resisted the action of arsenic, iron, bromide of potassium, and other remedies. He then ordered a solution of iodide of potassium, ʒ ss., in water, ℥ iv., a tablespoonful to be taken three times a day. After a few doses the choreic movements ceased entirely.

An Antiseptic Adhesive Pomade.—The following is employed in the Hôpital Saint-André, in place of adhesive straps, to keep the protective dressings in close apposition to the skin:

℞. Oxide of zinc ..... gr. x.
Chloride of zinc ..... gr. xlv.
Gelatine ..... ʒ x.
Water ..... ℥ ij.

It is also found very serviceable in dressing wounds of the face.

Flatulent Dyspepsia.—The following powders are recommended by a writer in the *Revue Générale de Clinique et de Thérapeutique* for the relief of flatulence occurring in various digestive disturbances:

In cases of dilatation of the stomach:

℞. Naphthol ..... gr. lxxv.
Magnesia ..... gr. cl.
Essence of peppermint ..... gtt. iij.

For 20 powders, one to be taken after each meal.

When diarrhœa is present:

℞. Powdered nux vomica ..... gr. xv.
Red cinchona bark
Prepared chalk ..... āā gr. lx.
Bicarbonate of soda ..... gr. lxxv.

Divide into 20 powders, and give one after each meal.

If constipation is present the following is preferable:

℞. Calcined magnesia,
Sulphur ..... āā gr. lxxv.

Divide into 20 powders, one to be taken after each meal.

When gastralgia is a prominent symptom cocaine may give relief, as in the following:

℞. Hydrochlorate of cocaine ..... gr. iij.
Sulphate of quinine ..... gr. xxx.
Prepared chalk ..... gr. lxxv.

For 20 powders, one powder to be taken after each meal. Care must be taken not to allow the use of this remedy for a long-continued period, because of the danger of thus laying the foundation of the cocaine habit.

The Odor of Iodoform can be removed from the hands and other parts, it is asserted, by washing thoroughly with linseed-meal water.

Senile Pruritus.—A German writer recommends sponging the body every night with warm water containing carbolic acid and vinegar, and the subsequent application of a powder consisting of one ounce of salicylate of bismuth and four ounces of starch.

Sore Nipples are often greatly benefited by an application of equal parts of subnitrate of bismuth and castor-oil.

Neuralgia.– Dr. W. M. Hightower recommends the following:

℞. Ammonii bromidi,
Sodii salicylatis ..... āā ʒ j.
Tincturæ hyoscyami ..... ʒ ij.
Aquæ ad ..... ℥ iv.

Sig.: One teaspoonful every half-hour until relief is obtained, or four doses have been taken.—Memphis *Medical Monthly.*

Inflammation of the Prostate.—The following is recommended by a French writer as very efficacious in the relief of chronic prostitis:

℞. Iodoform ..... gr. xx.
Olive-oil ..... ʒ ij.
Cocoa butter ..... q. s.

Divide into twenty suppositories, one to be inserted at bedtime.

A Laxative Powder.—The following is a favorite prescription of Dujardin-Beaumetz for the relief of chronic constipation (*L'Union Médicale*):

Cream of tartar ..... gr. xl.
Powdered aniseed,
Powdered fennel-seed ..... āā ʒ j.
Powdered senna-pods,
Washed sulphur ..... āā ʒ ij.
Powdered liquorice-root ..... ʒ ijss.
Sugar ..... ℥ j.

Mix well. Dose: one dessertspoonful in water at bedtime, or whenever most convenient.

For Acute Gonorrhœa.—Dr. Schwimmer recommends injections of a solution of salicylate of mercury in the strength of ⅛ grain to the ounce.

Diarrhœa.—The following dispensary prescription for diarrhœa is given in the Buffalo *Medical and Surgical Journal:*

℞. Salol ..... ℥ ij.
Subnitrate of bismuth ..... ʒ iv.
Chalk mixture ..... ℥ iij.

M. Sig.: One teaspoonful every two hours.

Fissured Nipples.—The following lotion for sore nipples is recommended in *Nouveaux Remèdes:*

℞. Balsam of Peru,
Tincture of arnica ..... āā ʒ j.
Lime-water ..... ℥ j.
Oil of sweet almonds ..... ʒ ij.

Enucleation of a Ruptured Eyeball.—Dr. James Ryley, writing in *The Lancet* of August 22, 1891, says that the enucleation of a ruptured eyeball may be easily performed if the globe be first stuffed with wool through the laceration in its coats, the edges of the gap being then united with a suture the ends of which are left long

enough to be of use in traction. If this be done, the operation will be found to be no more difficult than the enucleation of an unruptured globe.

Back-ache.—For the back-ache occurring with fever and at other times, Dr. H. E. Stroud, writing in the *Times and Register*, recommends equal parts of fluid extract of hydrangea and sweet spirit of nitre, in doses of one teaspoonful in water every two hours. He does not advise the mixture in back-ache for uterine displacement or in sciatica, but in all other forms he regards it as highly efficacious.

To Arrest the Secretion of Milk, the external application of one part of camphor in six parts of oil of turpentine is often of great service.

Chronic Diarrhœa.—The following has been recommended:

℞. Tannin..... 30 grains.
Rice flour,
Powdered chocolate,
Sugar, of each..... 2 ounces.

Put a heaping tablespoonful in a cup of boiling milk and boil a little longer, and serve with the morning and evening meals.

For Acne an application of corrosive sublimate in emulsion of almond-oil (1 part to 1,000) has been recommended.

Treatment of Old Ulcers of the Leg.—Dr. Charles P. Elwert, of New York, writes: "I have treated in the past six months, at Demilt, Bellevue, and Vanderbilt Dispensaries, and also in my private practice, forty-six cases of varicose and other ulcers of the leg, and have obtained favorable results in thirty-four cases by the following method: Cleanse the ulcer by irrigating with a solution of corrosive sublimate, 1 to 5,000. Then dry thoroughly with absorbent cotton, and apply daily the following powder:

℞. Iodoform..... ʒ ss.
Sulphate of cinchonidia..... ʒ j.
Wood charcoal..... ʒ ijss.

If any discharge appears after applying the powder, use absorbent cotton before applying the powder again. Advise the patient to rest and to keep the leg elevated. Keep the bowels regular with a mild laxative, and give some stimulating tonic to improve the condition of the general system. In the case of my four patients the powder caused irritation, and the discharge was increased. On further examination of those patients I discovered the existence of Bright's disease. In six other cases, where the above treatment was not successful, a poultice composed of powdered wood charcoal and matricaria was used for three or four days, until I obtained a healthy appearing surface to the ulcer; and I then applied daily the following solution:

℞. Tr. calendulæ..... ʒ ij.
Aquæ camphoræ..... ʒ viij.

After applying the solution, I strapped the ulcer with adhesive plaster, with good results in four of the above six cases, and gave laxatives and a tonic. As the treatment of chronic ulcers at the present day is not very successful in a large percentage of cases, especially in dispensary practice, the above treatment may be of use to the profession."

The Administration of Bromides.—The *Bulletin of Pharmacy* for September, 1891, calls attention to Professor Feré's recent suggestion concerning the administration of bromides. Believing that large doses sometimes induce unpleasant symptoms in consequence of a condition of sepsis in the intestinal tract, he recommends the administration of intestinal antiseptics, like naphthol, to remove drug intolerance due to the foregoing or other cause. The following formula has given excellent results, especially in the treatment of epileptics:

℞. Potassium bromide..... 1½ drachm.
Beta-naphthol..... 1 drachm.
Salicylate of sodium..... ½ drachm.

Mix and divide into three doses, one dose to be given three times daily.

It is affirmed by Feré that this treatment is curative and preventive. To this formula some French physicians add one-thirtieth of a grain of quinine sulphate. Eczema and psoriasis following the use of borax, also disappears if the intestinal tract is rendered aseptic.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

SPURIOUS ARTHRITIS FROM NERVE LESIONS—DISEASE OF THE SEMINAL VESICLES—UNION OF SKULL-BONES AFTER FRACTURE AND TREPHINING—MEDICAL MIGRATIONS—THE WELSH LANGUAGE IN MEDICINE—THE GUILD OF ST. CECILIA.

LONDON, October 17, 1891.

THE Clinical Society commenced work for the winter last week. Dr. Maclagan read a paper in which he gave an account of three cases of neuritis in which spurious arthritis followed the nerve-lesions. The latter affected the nerves of the arm and changes occurred in the joints of the knuckles and fingers. These changes were non-inflammatory in nature and consisted essentially in contraction and diminution in size of the bony and ligamentous structures of the joints; the author believed that they were the result of malnutrition of the affected structures, and that they were produced in the same way as the wasting of the muscles and the glossy state of the skin by which they were accompanied. The cases had nothing in common with true arthritis, and there could be no difficulty in distinguishing between the two conditions. The malnutrition of spurious arthritis was connected with the peripheral derangements accompanying peripheral neuritis.

Mr. Bowlby said he had had the opportunity of examining the joints of the hands in cases in which the median and ulnar nerves, with the tendons, had all been divided years before. The fingers showed the condition described by Dr. Maclagan and other changes had occurred in the articular cartilages themselves. With long fixation in one position the changes in a joint might after a time become inflammatory and intra-articular, but he believed they were always at first extra-articular. He had seen hands which it was formerly thought were quite incurable become enabled to continue their former work quite well, and he now considered the joint changes were generally such as admitted of recovery.

Dr. Barlow said he had seen some cases of spurious arthritis. They had generally been associated with alcoholic neuritis and occurred especially in the ankle-joints. If such cases were seen early, he would urge the use of a bed-cradle to take off the weight of the clothes, so that there might be no necessity for the patient to keep the attention fixed on the joints. He thought peripheral neuritis was often found in the early stage of infantile paralysis. He had noticed in cases of that condition great tenderness about the legs, and often a red swelling about the dorsum of the foot, almost simulating a gouty attack; this was probably an acute form of the condition which Dr. Maclagan had described as the chronic stage.

Dr. Maclagan, in reply, said the treatment of his three cases had consisted in forcible movements, electricity to restore the tone of the muscles, and gentle massage; in one case the cure was completed at Wiesbaden. One patient had quite recovered, and could now play the piano as well as before being ill. If the patients were left long without treatment the joints were liable to re-

main permanently altered, but he thought the cases were curable if taken at an early stage.

Dr. Parkin read notes on two cases of chronic disease of the seminal vesicles. Mr. Bruce Clarke related two cases of compound fracture of the skull in which the fragments of bone were carefully replaced in position and became firmly united. Mr. Arbuthnot Lane and Mr. W. H. Bennett also mentioned cases in which they had replaced bone removed in trephining, and found it unite firmly.

Dr. David W. Finlay, one of the physicians to the Middlesex Hospital, is just leaving London in order to take the position of Professor of Medicine at the University of Aberdeen. This is a striking illustration of the way in which the Scotch University system works. When a professorial chair is vacant the choice of the electors is by no means limited to local talent, nor even to Scotchmen. In the present instance Dr. Finlay, though a Scottish graduate, is not an alumnus of Aberdeen University, and has been established in London as a physician for about fourteen years. As other examples of Scottish Professors chosen from the London schools I may mention Sir William Turner, who has now been for many years Professor of Anatomy at the University of Edinburgh, but who studied at St. Bartholomew's Hospital, and graduated at the University of London; Dr. Greenfield, now Professor of Pathology at the same University, who received his medical education at St. Thomas' Hospital and, after graduating at the London University, held appointments at St. Thomas's and other London hospitals. Sir Joseph Lister, also, though an alumnus of University College and London University graduate, went north, where he became Professor of Surgery at Glasgow and Edinburgh Universities in succession, only vacating the latter position in order to come south again to hold the position he now occupies at King's College. Instances of this latter migration—southward—are not uncommon, and I could easily frame a long list of Scotchmen and Scotch graduates who have come to the metropolis and achieved success, but this is not so surprising considering the superior advantages in private practice offered by the southern capital.

The recent action of the Royal College of Physicians and Surgeons in Ireland emphasizes the fact that we are still a polyglot nation. The bodies in question have just recognized Welsh as one of the optional subjects for the medical preliminary examination and accept it instead of French and German. Our friends in the principality ought to be proportionately gratified. The Welsh language, however, promises to be longer lived than any other of the languages originally spoken by the inhabitants of the British Isles. Erse is well-nigh extinct and Gaelic is only spoken in the remote highlands of Scotland. Welsh, however, is still an important living language and a knowledge of it is imperative for the practitioner who settles in the rural parts of Wales, where many of the inhabitants speak no other tongue. Practitioners thus situated, when advertising for assistants, generally specify that a speaking acquaintance with Welsh is essential. The probable establishment of a Welsh University in the not-far-distant future is likely to still further encourage the study of the language of the ancient Britons.

Under the name of "The Guild of St. Cecilia" an organization has been established to use music as a therapeutic agent, and favorable examples of its beneficial action have already been obtained.

PRISON MANAGEMENT.

To the Editor of the Medical Record.

SIR: I have always read what Henry A. Riley, Esq., of New York, has contributed to the RECORD on medico-legal subjects with interest and profit, and have taken occasion to call the attention of physicians to important questions furnished by him to the professional reader as constituting a valuable department of journalism.

In the last issue of the RECORD, under the sub-title of "Convict Leasing and Prison Management," he uses the following language: "In this State charges have been made by the daily papers of great cruelty in the punishment of prisoners at the Clinton State Prison. The charges are direct and circumstantial and deserve a careful investigation, although the Superintendent of the State Prison is reported to consider them beneath consideration."

To correct the error into which Mr. Riley has inadvertently fallen, in the foregoing quotation, I would state that, at the present time a commission composed of Mr. Oscar Craig, President of the State Board of Charities, Mr. William M. F. Round, Secretary of the New York State Prison Association, and Dr. Leroy Balch, Secretary of the State Board of Health, designated for the purpose by General Austin Lathrop, Superintendent of Prisons, is in session at the Clinton Prison, to investigate the charges which have been current in the newspapers, in respect to cruel practices in that institution.

The character of the commission gives assurance of the thoroughness with which the investigation will be conducted.

WILLIAM C. WEY, M.D.

ELMIRA, N.Y., October 18, 1891.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 18, 1891, to October 24, 1891.

BIART, VICTOR, Captain and Assistant Surgeon. Having been found incapacitated for active service on account of disability incident to the service, is, by direction of the President, retired from active service, to date October 21, 1891.

VICKERY, RICHARD S., Major and Surgeon. Relieved from duty at the Army and Navy General Hospital, Hot Springs, Ark., and ordered to duty at Fort Monroe, Va.

MUNN, CURTIS E., Major and Surgeon. Upon being relieved from duty at Fort Monroe, Va., is ordered to duty at Mount Vernon Barracks, Ala.

CLEARY, PETER J. A., Major and Surgeon. Upon being relieved from duty at Mount Vernon Barracks, Ala., is ordered to duty at Fort McPherson, Ga.

HAPPERSETT, JOHN C. G., Major and Surgeon. Upon being relieved from duty at Fort McPherson, Ga., is ordered for duty at Fort Custer, Mont.

GARDNER, EDWIN F., Captain and Assistant Surgeon. Will proceed from Fort Porter, N. Y., to New York City, for temporary duty as Attending Surgeon and Examiner of Recruits in that city.

WATERS, WILLIAM E., Major and Surgeon. Upon being relieved from duty at Fort Custer, Mont., is ordered for duty at Columbus Barracks, O.

JARVIS, NATHAN S., First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Bayard, N. M., and ordered for duty at San Carlos, Ariz. Ter.

JOHNSON, RICHARD A., Captain and Assistant Surgeon. Upon being relieved from duty at San Carlos, Ariz. Ter., is ordered for duty at Fort Bayard, N. M.

BROOKE, BENJAMIN, First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Riley, Kan., and ordered for duty at Fort Leavenworth, Kan.

KEEFER, FRANK R., First Lieutenant and Assistant Surgeon. Upon being relieved from duty at Fort Leavenworth, Kan., is ordered for duty at Fort Riley, Kan.

MIDDLETON, PASSMORE, Major and Surgeon. By direction of the President, will report in person to Colonel Melville A. Cochran, Sixth Infantry, President of the Army Retiring Board, at Newport Barracks, Ky., for examination by the Board.

GANDY, CHARLES M., Captain and Assistant Surgeon. Granted leave of absence for fifteen days, to take effect on final adjournment of Army Medical Board, now in session in New York City.

APPEL, DANIEL M., Captain and Assistant Surgeon. Granted leave of absence for one month, to take effect about 6th proximo.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 24. 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	50	9
Scarlet fever	76	10
Cerebro-spinal meningitis	2	4
Measles	40	4
Diphtheria	84	20
Small-pox	0	0
Varicella	0	0
Pertussis	1	3
Erysipelas	0	0
Mumps	0	0
Rötheln	0	0

Hysteria and Tremulousness in Males.—Hysteria in men is apparently not rare in other countries, but in England it is, relatively speaking, very uncommon. Not many years ago a Russian physician observed that true hysterical fits were common among young Circassian men, and the disease might reasonably be suspected to prevail where men of an imaginative and impressionable stock predominate. Judging by the evidence of French medical publications, Frenchmen are far more subject to hysteria in adult life than Englishmen. Occasionally certain cases recorded in French medical newspapers must cause us to reflect; are such cases hysterical at all, or are certain nervous affections common in England really forms of hysteria? The doctrine that hypochondria is in males the homologue of hysteria, must be accepted by the French on the evidence of what prevails in England. For hypochondria, low spirits, or "spleen," is proverbially common there, and the French hold exaggerated opinions on the subject. In a more excitable race, more acute nervous symptoms might be expected. M. Debove has recently had under his care, in the Hôpital Andral, two cases of hysterical trembling. The first patient was aged fifty-four; he was well till last summer, when he was knocked down by a mounted trooper at a review. Violent tremors set in, simulating disseminated sclerosis, and he could not do his work at a sugar refiner's. He had plantar and pharyngeal anæsthesia and other symptoms of hysteria. Fifteen grains of bromide of sodium were given daily, and, with moral treatment, the patient recovered. The cure was sufficient to counter-indicate sclerosis. The second patient was aged thirty eight, but the case seems doubtful. He fell from a roof about a year since, and remained for over five months hemiplegic and aphasic A fortnight before admission into M. Debove's wards the patient, returning home from work, found that his wife had deserted him. He fell down unconscious, and on recovering his senses he found that the limbs and body trembled violently. The tremors remained very severe in the right arm. The case, being compared to similar instances in women—held by Dr. Debove to be truly hysterical—was reported as hysterical trembling in a male subject. The history of an injury, with symptoms indicating, indeed proving, very definite cerebral lesions, may make many readers sceptical about the hysteria in this case. Yet it would be interesting to determine how far tremulousness in sober, fairly nourished men may be an evidence of true hysteria.—*The British Medical Journal.*

What is True Surgical Antisepsis.—At the last meeting of the Clinical Society of Baltimore, the whole evening was given up to a discussion on "Some Considerations Concerning Surgical Antisepsis," which was opened by Dr. William H. Welch. He defined the terms antisepsis and asepsis, and said we need antisepsis in order to obtain a condition of asepsis. In spite of the fact that no one now uses Lister's elaborate methods of disinfection, and there was much change since his first paper on this subject, we should not forget that Lister established a principle which still stands, we should admire him for this principle even if he did not understand some of the methods as we understand them now. A number of experiments had been made at the Johns Hopkins laboratory with the object of testing the germicidal power of corrosive sublimate solutions, and the results seemed to be interesting. While we do not believe that the air is literally swarming with bacteria, as some would have us believe, still we must not ignore this source of contagion, especially in a hospital. Before beginning an operation it is customary to cleanse the skin of the patient and the operator's hands. Simply washing with soap and water removed mechanically many bacteria, and indeed soap was itself a germicide of no mean power. After this it was customary to wash with a corrosive sublimate solution. As Dr. Halsted was not satisfied with the results of some of his operations, especialy in the healing of the wound around the sutures, they have begun a series of experiments.

The result of their experiments was to show that the germicidal power of corrosive sublimate was limited. To a germ culture of bacteria was added a certain amount of a corrosive sublimate solution, and the result was that, while most of the bacteria might be killed, some of them simply had their activity held in abeyance, while some were not at all affected unless large quantities of corrosive sublimate solution were added. It was also found that in some cases strong solutions were necessary, while in others weaker ones would do. In making cultures from the skin of the operator, large numbers of colonies were obtained, the soap and water was used and cultures were again made, with the result of finding a still smaller number, while a washing with corrosive sublimate solution showed very few. But laboratory experiments made him suspect that all these bacteria were not killed. To prove this, after washing with the corrosive sublimate solution, the fungus was washed with sulphate of ammonia, and then scraped and cultures made, with the result of finding many colonies. His reasoning was that what bacteria were on the hand after washing with soap and water, were partially killed by the corrosive sublimate solution, but that this solution soon ceased to be effective, and the mercury united with the albumin of the tissue to form the albumunite of mercury, which formed a capsule around the bacteria and micrococci, which would not grow when transferred to culture-tubes; but let the hand once be washed with sulphide of ammonia, and this dissolves off the capsule and sets the bacteria free, which then grow in culture media.

He had discovered also in the deeper layer of the skin a micrococcus which he called the micrococcus albus. He thought it caused the stitch abscess, which did not occur when subcutaneous sutures were used. One thing his experiments had taught him, that corrosive sublimate stays on the hands for weeks and months at a time, and this was proved by putting sulphide of ammonia on a hand which had not been in corrosive sublimate solution

for weeks and months, and the hand turned brown from the formation of the sulphide of mercury.

The most satisfactory disinfectant was permanganate of potash and oxalic acid in solution. The result of this careful work showed that corrosive sublimate was not always a reliable disinfectant, and the skin is not easy to disinfect. Several surgeons entered into a discussion, and the subject, viewed from the stand-point both of the pathologist and the surgeon, was fully developed.

Medical Diplomas Conferred and Refused in 1889–90 in France and Germany.—In the German Empire (45,000,000 inhabitants) the German universities conferred, in 1889 and 1890, 1,125 diplomas of doctor of medicine, distributed as follows: Berlin, 163; Bonn, 110; Breslau, 42; Erlangen, 69; Freiburg, 44; Giessen, 12; Göttingen, 25; Griefswald, 80; Halle, 36; Heidelberg, 22; Jena, 42; Kiel, 48; Königsberg, 26; Leipzig, 2; Marburg, 23; Munich, 114; Rostock, 6; Strassburg, 63; Tübingen, 22; Würtzburg, 166. The number of doctors rejected in 1888–89 was 1,030; in 1887–88, 935; in 1886–87, 847; in 1885–86, 685. In France (38,000,000 inhabitants, not reckoning the colonies) the number of doctors rejected in 1889–90 by the six French faculties was 597, a decrease of 28 on the year preceding. Bordeaux rejected 60; Lille, 16; Lyons, 63; Montpellier, 46; Nancy, 26; Paris, 386.

Doctor and Preacher.—

Parson and doctor joined in one
  Most suitably we find:
The one the suffering body treats,
  The other soothes the mind.
The parson shows the way to heaven;
  And then, with tender care,
The doctor consummates the work,
  And gets the patient there.

—*Medical Age.*

Some Life Statistics.—An eminent statistician of Germany has recently given out the following as general facts, proved by vital statistics: The average length of life is thirty-seven years; twenty-five per cent. of mankind dies before attaining the age of seventeen. Of 1,000 persons only 1 reaches the age of one hundred years, and 6 that of sixty-five years; 35,214,000 die every year, 96,480 every day, 4,020 every hour, 67 every minute. The births amount to 36,792,000 every year, 100,800 every day, 4,200 every hour, 70 every minute. Married people live longer than the unmarried, and civilized nations longer than the uncivilized. Tall persons enjoy a greater longevity than small ones. Women have a more favorable chance of life before reaching the fiftieth year than men, but a less favorable one after that period. The proportion of married persons to single is as 75 to 1,000. Persons born in spring have a more robust constitution than those born at any other season. Births and deaths occur more frequently at night than in the daytime.

The Illinois Army and Navy Medical Association held an adjourned meeting at Chicago, October 7th and 8th, at which time the constitution was amended as to eligibility to membership, viz.: "All reputable physicians, whether in practice or not, who served in the Army or Navy during the late war, regardless of the State from which they come, are eligible to membership in this Association." The following resolution was unanimously adopted: "Whereas, in view of our high esteem for Dr. John H. Rauch, as a medical officer of the United States Army during the War of the Rebellion, as a gentleman of worth and culture, and for his most efficient services as a member of the Illinois State Board of Health, and for the untiring energy exhibited as the secretary of said board, whereby the sanitary conditions of the State and nation have been greatly improved, the standard of medical education elevated, and the interests of profession and people most thoroughly guarded; therefore, Resolved, That we hereby express our regret that so efficient a member of the Board of Health of the State of Illinois should have retired from that body. No more efficient, active, earnest worker can be found among the medical profession, to fill that important position, and we believe that the interests of the people, as well as those of the medical profession, will be advanced by his recall to duty thereon." The next meeting of the Association will be held at Vandalia, Ill., at the time of the meeting of the Illinois State Medical Society, but immediately following said meeting.

A Contribution to the Literature of Maternal Impressions.—In an interesting article on "Manners and Customs of Sicily in 1890," by Hamilton Aïdé, in the *Nineteenth Century* for October, 1890, a unique case is mentioned of the family of a dealer in antiquities in Palermo, in which six of the seven children were deaf-mutes. The affliction was on neither side hereditary, both the wife's family and that of the husband being a fine and perfectly sound race. The first child was without blemish; but before the birth of the second, which took place during the Revolution, a bomb-shell burst in the wife's room. The child was born deaf and dumb, and so were the five born subsequently. Four of these children are still living in the Deaf and Dumb Asylum in Palermo.

Hard Metal in Soft Drinks.—During the last quarter the Aberdeen public analyst examined 31 samples of aërated beverages, and only 10 were found to be pure. One quantity of lemonade contained as much as 4.3 grains per gallon of lead, another 2.25, a third 2.25, and a fourth 1.2 grain, while the others contained .90 to .04 grain per gallon. Two samples contained heavy traces of iron, but this impurity is decidedly less objectionable than the other. No wonder lemonade is sometimes contemptuously described as "liquid stomach-ache."—*Medical Press.*

Amateur Surgery.—A writer in the *Hospital Gazette* mentions the following rather curious illustration of the workings of the instinct of self-preservation: A boy, while gathering white heather, had the misfortune to be bitten by an adder, and fearing evil consequences from the bite determined to amputate the finger bitten. This he at once essayed to do with his pocket-knife, but having no previous knowledge of anatomy could not get the finger off as he wished. At last he managed to get into the joint, and with a courage that did him credit amputated the finger in a way, and having done so proceeded to a medical practitioner to have the finishing touches put to it. This was done by Dr. Somerville, Galashiels, and so far no evil results have followed the rude operation performed by the adder or the boy.

Women Apothecaries in Russia.—The Russian Ministry of Education has recently sent a circular to all educational and medical commissions of the empire, informing them that every woman who has finished a course of a higher education may be engaged as a pharmaceutical apprentice in a drug store, and, by successive professional examinations, may attain the degree of "provisor," and become a pharmacist with the same rights and privileges as a man.

A Drug Explosion.—A student of pharmacy in Hesse was called upon to put up a prescription containing a twenty per cent. solution of chromic acid, salicylic acid, and water. He put the crystals of chromic acid directly into the alcohol, whereupon an explosion took place, and the unfortunate student was severely burned in the eyes.

Ulceration of the Mouth in Lead-poisoning.—Dr. Osmund Stedman calls attention, in *The Lancet* of September 26, 1891, to the occurrence of ulceration of the mouth in cases of lead-poisoning in children. He had noted several cases in which this was a prominent symptom, and he thinks it well to bear in mind the possibility of such a causation of oral ulcers in children when no other explanation of the condition is evident.

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Original Articles.

THE SURGICAL TREATMENT OF PYLORIC STENOSIS, WITH A REPORT OF FIFTEEN OPERATIONS FOR THIS CONDITION.[1]

By N. SENN, M.D., Ph.D.,

PROFESSOR OF PRACTICE OF SURGERY AND CLINICAL SURGERY IN RUSH MEDICAL COLLEGE; ATTENDING SURGEON TO THE PRESBYTERIAN AND EMERGENCY HOSPITALS; SURGEON IN CHARGE OF ST. JOSEPH'S HOSPITAL, CHICAGO, ILL.

Stricture of the pylorus, sufficient in degree to give rise to obstruction, slowly but surely leads to a series of pathological changes incompatible with life, and death from marasmus will eventually result, irrespective of the nature of the primary lesion which caused the stenosis. The progressive narrowing of the lumen of the pylorus causes retention of food in the stomach, which, failing to undergo proper gastric digestion, acts the part of an irritating foreign substance, and in a short time produces a diffuse catarrhal inflammation. The retention in the stomach of imperfectly digested food is followed by fermentation, which still further impairs gastric digestion and adds another causative element in the production of dilatation of the organ. The accumulation of food, and the products of catarrhal inflammation in the stomach, increase as the pyloric outlet of the organ is diminished by the stricture, and dilatation is brought about by the weight of the stomach contents, the weakening of its walls by the secondary catarrhal inflammation, and by the elastic expansion of the organ by the gaseous products of fermentation. In chronic pyloric obstruction I have repeatedly evacuated from the stomach over a gallon of fluid, containing solid particles of food, through an elastic siphon stomach-tube. In one instance fragments of the pulp of an orange were observed in this manner three months after the orange was eaten, showing that when the stenosis has reached a certain stage solid fragments of food may be retained in the stomach, in an undigested state, for weeks and months. In reference to the secondary lesions of the stomach following pyloric stenosis, the train of symptoms is very much the same whether the primary disease is of a benign or malignant nature. Death eventually occurs, not from the disease which has produced the stricture, but from the secondary lesions which develop in consequence of the mechanical obstruction. Irrigation of the stomach, rational use of internal remedies, a carefully selected diet, the use of electricity and massage exert a beneficial influence in the retardation of the secondary lesions caused by the obstruction. They are the most useful means which the modern physician employs in the treatment of such cases to prevent and combat the secondary lesions, but the employment of all these valuable therapeutic resources can at best only postpone, but not obviate, the inevitable fatal termination.

Stricture of the pylorus is a surgical affection, and should be treated as such with the same right and for the same reasons as a stricture of the œsophagus, rectum, or urethra. Reliance on medicine is as deceptive and useless in these cases as in the treatment of stricture of any other organ. Permanent relief can only be secured by prompt surgical interference.

During the last ten years abdominal surgery has widened its field of application and usefulness, and now deals successfully with the surgical affections of every one of the intra-peritoneal organs. Gastric surgery has a short but eventful history. Within a few years hundreds of operations have been performed on the stomach for various indications, and many of them have proved eminently successful. Although the hopes first entertained in reference to the possibilities of extensive resections for malignant disease have not been realized, the results obtained by operative treatment for obstructive lesions have surpassed all expectations, and constitute one of the triumphs of modern surgery. It must not be forgotten that gastric surgery is still in its infancy, and I am quite confident that in less than ten years from now the means for an early accurate diagnosis of the different surgical affections of the stomach will have been so much improved, and the technique of the different operative procedures will have reached such a degree of perfection, that surgeons will then deal with the different localized affections of this organ as successfully as the gynecologist now does with the different affections of the uterus and its appendages. I propose on this occasion to discuss briefly the surgical treatment of pyloric stenosis. I shall divide the subject, in reference to the nature of the obstructive cause, into, 1. Operative Treatment of Cicatricial Stenosis of the Pylorus. 2. Operative Treatment of Carcinoma of the Pylorus. With very few exceptions stricture of the pylorus is caused either by cicatricial contractions following the healing of an ulcer in this locality or a carcinoma. It is very rare indeed to find obstruction here caused by other conditions, such as a non-malignant tumor, congenital stenosis, a twist, or flexion.

1. **Operative Treatment of Cicatricial Stenosis.**—Cicatricial stenosis of the pyloric orifice of the stomach frequently follows as a remote sequela after the healing of an ulcer or traumatic defect in this part of the stomach. The development of the stenosis is a slow process, as it depends upon the formation and contraction of cicatricial tissue which is produced at the site of the former trauma or ulcer. The formation of an excessive amount of granulation tissue in a surface wound or ulcer of the stomach takes place in consequence of the continued irritation caused by the presence of food and digestive fluids, and on this account cicatricial contraction so often follows the healing of a wound of the mucous membrane or ulcer of this organ. A cicatricial stenosis of the pylorus gives rise to symptoms of obstruction at this point—vomiting, retention of food, catarrhal inflammation followed by progressive dilatation of the stomach. Patients suffering from this affection are usually treated for months and years for dyspepsia or indigestion until a careful examination of the stomach reveals the existence of the obstruction and great distention of the stomach, when the diagnosis is often changed to carcinoma of the pylorus. The diagnosis of cicatricial stricture of the pylorus should be based on the clinical history of the case, which usually points to the existence of ulceration months and years before, the use of the siphon, stomach-tube, and inflation. The clinical history usually reveals the existence of disturbed digestion years ago, caused by an unhealed ulcer, and later by the gradually increasing obstruction. For a time the compensatory hypertrophy of the walls of the stomach balances the mechanical difficulties caused by the stricture; but when this is no longer the case, the walls of the stomach become attenuated and dilatation of the organ follows as a constant and inevitable result. At this stage the elastic stomach-

[1] Read at the meeting of the New York State Medical Association, October 28, 1891.

tube is of great diagnostic value. By its use the overloaded stomach is emptied of its contents and the amount of fluid removed often furnishes valuable information regarding the degree of dilatation, while examination of the contents removed often reveals valuable diagnostic points. After the stomach has been thoroughly washed out, its size and location can be accurately outlined by inflation. Even when the stomach is in a normal condition it can be fully distended by inflation from above, and when the pyloric orifice has been diminished in size very little, if any, air passes beyond it when the organ is distended for diagnostic purposes. Air should be forced through the stomach-tube slowly and uninterruptedly from a large rubber balloon, until the contour of the stomach can be outlined on the surface by inspection, palpation, and percussion, which will accurately indicate its size; but this method of examination will also determine accurately its anatomical location and relation to surrounding organs. When the dilatation is very marked, it is not uncommon to find the axis of the organ changed from horizontal to a nearly perpendicular line, and in such cases the great curvature is often found in the left iliac fossa.

The absence of a tumor in the pyloric region speaks in favor of a cicatricial stenosis, but does not preclude the possible existence of an annular malignant stricture. A cicatricial stricture of the pylorus is almost certain to lead to a fatal termination in from three to four years from marasmus, unless the mechanical obstruction is remedied by surgical interference, as a stricture in this locality always manifests an intrinsic tendency to progressive contraction, and finally completely interrupts the entrance of food from the stomach into the intestines. The operative treatment of a cicatricial stricture at the pyloric end of the stomach consists in pylorectomy, digital divulsion of the stricture through a wound in the stomach, in the formation of a partly new pylorus by the pyloro-plastic operation of Heineke-Mikulicz, or, in establishing a new outlet from the stomach into the upper portion of the small intestine by making a gastro-enterostomy.

Pylorectomy.—The mortality of pylorectomy, even in the treatment of cicatricial stenosis, has been so great—about fifty per cent.—while the less heroic procedures have yielded equally satisfactory functional results, that we may take it for granted that this operation will be abandoned in the treatment of this form of pyloric obstruction.

Digital Divulsion of Cicatricial Strictures of Pyloric Orifice of Stomach.—In 1883 Loreta, of Bologna, introduced a new method of treating non-malignant strictures of the pylorus, and later published a number of successful cases. The operation devised by him consists in opening the stomach a little nearer the pyloric than the cardiac extremity, and passing first the right index-finger through the strictured portion, and later also the left, and then separating them, as he did in the first case more than three inches. Considerable force is usually required in dilating the stricture to this extent, and during such forcible stretching there is always danger of tearing through the entire thickness of the wall of the pylorus. The wound in the stomach is closed in the same manner as after gastrotomy for other purposes. The stomach should be thoroughly emptied by irrigation with a mild antiseptic solution before the operation, and during the stretching process the visceral wound should be drawn well into the abdominal incision.

To the immediate risks of Loreta's operation, rupture of the pylorus and dangerous hemorrhage, must be added recurrence of the stricture, which is certainly one of the common remoter consequences following treatment of cicatricial strictures by rapid dilatation wherever the stricture may be located. In this particular it can hardly be assumed that stricture of the pylorus constitutes the only exception. Notwithstanding that a number of successful operations of this kind have been reported, and the operation is being strongly urged by a number of able surgeons, notably by Barton, of Philadelphia, it will undoubtedly never be forgotten, as it is really more dangerous and uncertain in its results than the pyloroplastic operation of Heineke-Mikulicz, which for many reasons is sure to take the place of all other operations in the surgical treatment of non-malignant strictures of the pylorus.

Pyloroplasty.—The safest, and functionally most efficient, operation for cicatricial stenosis of the pylorus is the one devised by Heineke and Mikulicz nearly at the same time. It is a procedure which well deserves the name it bears—pyloroplasty, as it not only removes the mechanical obstruction, but, at the same time, creates a new pylorus. This operation was first planned and practised by Heineke, of Erlangen, and eleven months later Mikulicz, ignorant of Heineke's work, made the operation in exactly the same manner. The operation is made by cutting the anterior wall of the strictured pylorus, and extending the incision about an inch toward the stomach, and the same distance in the direction of the duodenum. The straight incision in the long axis of the pylorus divides the stricture, and the contracted pylorus becomes the posterior wall of the new pylorus by retracting the margins of the wound on each side, at the centre, with tenacula, and suturing the wound in an opposite direction to the incision, that is, transversely to the long axis of the stomach. The new pylorus is made up of tissue, taken partly from the anterior wall of the stomach and partly from the duodenum, the posterior wall being composed of the narrow, contracted pylorus. In suturing the wound it is advisable to tie the sutures from each angle of the wound, tying the central sutures last. Two rows of sutures, deep and superficial, are employed, the same as in closing a wound of the stomach or intestines. Recurrence of the stricture is a physical impossibility, as the new pylorus is composed mostly of healthy tissue, and the danger attending the operation is not greater than that which accompanies an ordinary intentional wound of the stomach or intestines. The results of this operation, obtained in eight cases which have so far been reported, have been very satisfactory both in reference to the immediate effects of the operation and the functional results. In this connection I will give the details of two cases of cicatricial stenosis of the pylorus, in which I employed this procedure, and in both instances with most gratifying results.

Case I. *Cicatricial Stenosis of Pylorus—Pyloroplasty—Recovery.*—An account of this case was published by Dr. F. J. Groner, of Big Rapids, the attending physician, in *The Physician and Surgeon*, March, 1890. The patient was the Reverend Mother Superior of the Convent of Mercy, Big Rapids, Mich., aged forty-seven. General health good until the early part of the winter of 1888, when she began to suffer with symptoms which suggested the existence of pyloric obstruction. The usual treatment for indigestion proved of no avail. Vomiting at variable periods after eating was a conspicuous symptom, and was always followed by relief. On one occasion meat eaten one hundred hours before was recognized in the vomited matter. Vomiting commenced in March, 1889. The symptoms became greatly aggravated during the month of June. The use of the stomach-tube afforded great relief. In the latter part of May the patient consulted me, at the request of her attending physician, and from the clinical history and the symptoms then present, I had no hesitation in corroborating the diagnosis previously made by Dr. Groner—cicatricial pyloric stenosis.

The obstruction evidently became rapidly aggravated, so that even liquids were no longer retained in the stomach. The patient's normal weight was one hundred and ninety-nine pounds, of which she lost fifty pounds during her illness.

The operation was performed, July 16, 1889, at the Mercy Hospital, Big Rapids, Mich. I was ably assisted by Drs. Groner, Barth, Burkart, and Bigelow. The pa-

tient was thoroughly prepared for the operation by washing out the stomach with Thiersch's solution. Chloroform was used as an anæsthetic. The great thickness of the abdominal wall made it somewhat difficult to bring the pyloric end of the stomach well forward into the wound. The pylorus was a circular mass of cicatrical tissue, its lumen not much larger than an ordinary lead-pencil. The incision was carried well toward the stomach and duodenum, in order to obtain sufficient healthy tissue for the new pylorus. The longitudinal wound was transformed into a transverse wound, and united by two rows of fine silk sutures. The lumen of the new pylorus was large enough to admit two fingers. She vomited several times after the operation, but this the patient attributed to the morphia which was administered. For twenty-four hours the stomach was kept perfectly empty. After this time liquid food was administered in small quantities at short intervals. No further untoward symptoms occurred, and the external incision healed by primary intention. Six weeks after the operation the patient resumed her ordinary duties, which consisted of superintending three schools, each fifty miles apart, and the trying task of presiding over two hospitals. Appetite and digestion at this time were perfect. The overwork brought on severe and obstinate attacks of intercostal neuralgia, which required morphine to relieve the pain. This late complication retarded materially the final complete recovery. In December the patient was in perfect health and had regained her former weight. At present there are no indications of recurrence of gastric disturbance, and the patient continues her arduous work with the same energy and efficiency as before her illness. It is noteworthy to state that in this case the patient does not recall any symptoms which would indicate the existence of an ulcer of the pylorus at any time before the last illness, and yet it is almost certain that, probably years before, she was the subject of an extensive circular ulcer at or near the pyloric orifice. The stomach was only moderately dilated, and the walls, if anything, were thicker than in a normal condition. It is evident that the obstruction had existed for a long time, and had resulted in a compensatory hypertrophy of the coats of the stomach, and that at the time of operation dilatation of the stomach and attenuation of its walls were progressing hand in hand. I have no doubt that a few months later both of these conditions would have been greatly aggravated. A timely resort to operative treatment in this case prevented the full development of the remote secondary lesions following pyloric obstruction, and thus averted the serious organic changes which characterize pyloric obstruction of long standing, and which, under these circumstances, often never completely disappear, even after the stricture has been removed by operative treatment.

Case II. *Cicatricial Stenosis of Pylorus following Recent Extensive Ulceration—Pyloroplasty without Anæsthesia—Recovery.*—The second case of pyloroplasty was a Norwegian farmer, fifty-one years of age, who was brought to the Presbyterian Hospital, in Chicago, by Dr. Boeckmann, of St. Paul, Minn., July 5, 1891. No hereditary tendency to carcinoma in his family. He states that he has been a confirmed dyspeptic for twenty years. Eight months before his admission into the hospital he suffered great pain in his stomach, which was always aggravated after meals. The pain was associated with a burning, scalding sensation in the stomach, which was most distressing several hours after meals. About this time the patient had an attack of profuse hæmatemesis which almost proved fatal. The diagnosis made at this time was ulcer of the stomach. By restriction of diet, and occasional use of stomach siphon-tube he obtained temporary relief; but for the last two months he has vomited repeatedly, usually some time after eating. At the time of admission the patient presented an anæmic appearance and was greatly emaciated. No tumor could be detected in the region of the pylorus. Chemica examination of the contents of the stomach revealed the presence of hydrochloric acid. By use of the elastic tube it was ascertained that the stomach held at least twice as much fluid as in a normal condition. From the history of the case, and the symptoms and signs presented, I was ready to endorse the diagnosis of cicatricial stenosis of the pylorus, previously made by the attending physician. As the patient was very much debilitated, his pulse intermittent and irregular, I agreed with Dr. Boeckmann that it would be unsafe to administer an anæsthetic, and that if the patient's consent could be obtained it would be advisable to operate without anæsthesia. The patient readily agreed to our advice, and heroically submitted to the somewhat prolonged operation, responding to questions, and describing his sensations during its progress. As in the former case, the stomach was thoroughly washed out with a weak antiseptic solution just before the operation was commenced. The operation was performed on the same day he reached the hospital. The external incision was made through the median line, from the ensiform cartilage to the umbilicus. According to the patient's own statements this step of the operation caused the severest pain. The incision in the stomach and suturing of the visceral wound produced but little suffering. The stomach was found greatly dilated, its walls very vascular and considerably attenuated. The pylorus occupied its normal location, and presented, anteriorly, a tortuous and twisted appearance. The anterior wall presented otherwise a normal appearance. Digital exploration revealed a hard cicatricial mass, involving the posterior and upper part of the pylorus. An incision about two inches in length was made, parallel to the long axis of the stomach, with the strictured portion as the central point. Inspection and digital exploration now revealed a cicatricial mass posteriorly and above the incision, involving about two-thirds of the circumference of the pylorus, the lumen of which was contracted down to the size of a lead-pencil, and very much distorted. The visceral wound was treated in the same manner as in the foregoing case. Aseptic gauze was packed around the pylorus, and was kept in place from the time this part of the stomach was brought forward into the wound until the suturing of the visceral incision was completed. During the operation the patient complained of nausea, at the same time violent contractions of the stomach were observed, but vomiting did not ensue. The abdominal incision was closed by buried and superficial sutures. The operation lasted nearly an hour, and after its completion the patient was somewhat paler, but expressed himself as satisfied that the pain inflicted was not as severe as he had expected. Rectal alimentation was relied upon for three days, after which stomach feeding was resumed. The diet for a number of days was limited to liquid articles of food. The highest temperature observed was 99$\frac{3}{4}$° F. The wound healed by primary union, and the patient left the hospital much improved in health at the end of twenty-five days. On several occasions the stomach-tube had to be used after the patient commenced to take liberal quantities of solid food, as digestion appeared to be somewhat impaired. I received a letter from him two months after leaving the hospital, in which he informed me that he had gained twenty-seven pounds in weight, and was able to digest all kinds of food without experiencing any distress. Only on a few occasions was the stomach washed out after he left the hospital, for fear that undigested food might aggravate the enfeebled condition of the stomach. As I have not heard from the patient since, I have every reason to believe that he has been free from a relapse. The points of interest in this case are the sex and age of the patient, the short time that elapsed since the ulcer formed and symptoms of obstruction appeared, the almost complete impenetrability of the pylorus by a cicatrix involving only two-thirds of its circumference, and the fact that the operation was performed without the use of an anæsthetic. The com-

plete impenetrability of the pylorus in this case was at least in part due to the tortuous course of its lumen.

The results obtained in the above cases, as well as a study of the literature on the different methods of operative treatment of pyloric stenosis, have led me to the conclusion that pyloroplasty is the safest and most successful operation in all cases in which pyloric obstruction is caused by cicatricial contraction. Pylorectomy in such cases is too dangerous an operation, and even if it should prove successful would not yield as satisfactory functional results as the simpler and safer procedure of pyloroplasty. Digital divulsion of the stricture has been followed by a much larger mortality than pyloroplasty, and the remote danger of recurrence of the stricture, for obvious reasons, is much greater than in the latter operation. Gastro-enterostomy is attended by as much, if not more, immediate risk to life than pyloroplasty, and the functional results can certainly not be as satisfactory as after pyloroplasty, because an important segment of the small intestines is permanently excluded by the operation from the process of digestion. As in the treatment of all other surgical affections of the gastro-intestinal canal, it is important, in order to secure good results, to operate early, before the obstruction has resulted in incurable secondary lesions, it is also important that an early diagnosis of the existence of pyloric obstruction should be made. For practical purposes it is immaterial to make a positive differential diagnosis between benign and malignant obstructive lesions before the abdomen is opened, as in either case operative treatment of the obstruction is urgently indicated. The existence of pyloric obstruction can be ascertained, with a reasonable degree of certainty, by the complexus of clinical symptoms which attends this condition, and the diagnostic tests which demonstrate the increased capacity of the stomach and dilatation of this organ, in reference to the presence or absence of hydrochloric acid in the secretions of the stomach as a test in the differential diagnosis between benign and malignant affection of the stomach and pylorus. Kinnicutt summarizes the results of his investigations as follows:

"The concensus of experience among clinical observers in various parts of the world is to the effect that free hydrochloric acid may be, and is, absent temporarily or otherwise in many gastric affections; that it is absent in a very large proportion of cases of cancer of the stomach; that its continuous presence is a diagnostic sign of great value in excluding the probable existence of gastric cancer."

Malignant Stenosis of Pylorus—Myofibroma and other benign tumors of the stomach are extremely rare, and when present seldom necessitate surgical treatment. Sarcoma of the stomach, as compared with carcinoma, is so very rare that it is only necessary to speak briefly of carcinoma as a cause of pyloric obstruction in the consideration of malignant stenosis in this part of the stomach. It appears that in the stomach the general law is also observed that carcinoma develops in preference where two types of epithelial cells meet. It is a well-known clinical and pathological fact that in the stomach the disease has its primary starting-point most frequently at the pyloric or cardiac orifice, and of these two localities the pyloric is, by far, the most frequently affected. Carcinoma of the pylorus gives rise to many symptoms which suggest the existence of ulcer and cicatricial stricture. This is more especially the case in circular carcinoma, which produces obstruction quite early by infiltration of the tissues and cicatricial contraction. As soon as the internal surface of the carcinoma ulcerates, hemorrhage into the stomach is of frequent occurrence. It is not always easy, or even possible, to ascertain the existence or exact location of a carcinoma of the pylorus by any of the known physical signs or chemical tests. A circular carcinoma of the pylorus may cause death before its presence can be recognized by any known methods of physical examination. An infiltrating carcinoma of the pyloric extremity of the stomach may cause thickening of the walls of the stomach over a large area, and yet it may elude the most painstaking examination if physical signs are relied upon exclusively. In the majority of advanced cases of pyloric carcinoma, however, a distinct tumor can be felt in the pyloric region; but often the weight of the tumor has carried that part of the stomach in a downward direction, and then the tumor may be found as low down as the level of the umbilicus. Circular carcinoma of the pylorus often causes enormous distention of the stomach, the large curvature of which often reaches as far as the pubes. In such cases the stomach is often placed in almost a vertical position—a condition which greatly aggravates the existing obstruction. It is often very difficult to differentiate between a carcinoma of the pylorus and a retro-peritoneal tumor in the same locality. Inflation of the stomach is the most reliable diagnostic procedure in such cases.

If the tumor is retro-peritoneal it becomes covered by the distended stomach during the inflation; the previous area of dulness disappears as the tumor becomes covered by the distended tympanitic stomach. If, on the other hand, the tumor is connected with the stomach, its relative position to the anterior abdominal wall is not changed by the inflation. A carcinoma of the pylorus may be suspected if a patient more than forty years of age gives a history of disturbed digestion dating back for several months or a year, combined with evidences pointing to pyloric stenosis. The chemical examination of the contents of the stomach for free hydrochloric acid, so much relied upon during the last few years in making a differential diagnosis between benign and malignant affections of this organ, has been found a valuable aid, but the results thus far obtained are not infallible. Hæmatemesis in persons beyond middle age, progressive marasmus, and enlargement of the cervical glands speak in favor of malignant disease. The surgical treatment of pyloric carcinoma consists either in removal of the diseased part by pylorectomy, or the formation of a new outlet from the stomach into the upper portion of the small intestines by gastro-enterostomy.

Pylorectomy.—A limited carcinoma of the pylorus, if it has not resulted in extension of the disease to adjacent organs or infiltration of the lymphatic glands behind it, furnishes a legitimate indication for a radical operation. If, however, the disease has extended beyond the walls of the stomach, pylorectomy is contra-indicated and the surgeon must be content to render the obstruction harmless by establishing a new route by which the contents of the stomach can reach the intestinal canal. If the patient objects to an operation life can be greatly prolonged and a great deal of suffering prevented by placing the patient on a carefully selected diet and by resorting to irrigation of the stomach as often as the retention of the undigested food may render this procedure necessary. Pylorectomy has so far not yielded results which would encourage surgeons to have more frequent recourse to it in the treatment of malignant stenosis. The great mortality of this operation and early relapses are easily explained by the fact that heretofore operations were usually performed after the patient's strength had been greatly reduced by the disease and after extension of the disease to the surrounding organs or lymphatic glands had taken place. Statistics appear to show that the results have not improved much during the last few years. At the Berlin International Medical Congress (1890) Billroth gave an account of 27 pylorectomies, all of which were performed either by himself or his assistants. Of this number 12 recovered from the operation and 15 died. Of 13 pylorectomies for carcinoma which survived the operation, 5 died after ten months, and 1 after five years and three months after the operation from recurrence. There were yet living three women at the time the report was made, of whom two had been operated upon two and one-half and four and one-

fourth months. Of 6 resections of the pylorus for cicatricial stenosis 3 recovered. These results, obtained by the ablest of living surgeons, certainly leave much to be desired, and cannot fail in influencing surgeons to limit the sphere of the operation to favorable cases. The proper time for pylorectomy will come when we shall be able to recognize carcinoma of the pylorus during its incipiency, at a time when the patient's general condition is such as to be able to resist the immediate effects of the operation; when this time has come the mortality will be small and the relapses few. At present it seems to me that the operation is only justifiable where the patient's strength is fair and where the disease is limited and has not passed beyond the organ primarily affected.

Gastro-enterostomy.—Gastro-enterostomy is an operation by which an anastomotic communication is established between the stomach and the upper portion of the intestinal canal, with exclusion of the duodenum and sometimes a portion of the jejunum. This operation is performed as a curative or palliative measure in cases of pyloric obstruction when removal of the cause of obstruction is impossible or not advisable. This operation was devised and first practised by Wölfler. Wölfler made an incision about three inches in length in the anterior wall of the stomach, at a safe distance from the carcinoma and near the great curvature, and a similar incision in the convex side of the intestine about thirty inches below the plica duodeno-jejunalis, and united these two visceral wounds with sutures, thus establishing a direct communication between the stomach above and the small intestines below the obstruction. In uniting the posterior margins of the wounds the serous or superficial sutures should be first inserted, and tied when the inner or second row are tied, and cut short to the knot. Silk should be used exclusively as suturing material. In Wölfler's operation the current of the intestinal contents is in a direction opposite to the peristaltic action of the stomach, a condition which necessarily must be unfavorable to the easy escape of the stomach contents into the intestinal canal, a circumstance which led Rockwitz to so modify the operation that he turns the intestinal loop one-half around its axis and unites the intestine with the stomach in this position, and thus brings the two organs in such relative position that the peristaltic action of both takes place in the same direction. Von Hueker has modified the operation still further and establishes the communicating opening in the posterior instead of the anterior wall of the stomach. The portion of intestine which should be united with the stomach is a point about twenty-four to thirty inches below the pylorus.

Operators have experienced a great deal of difficulty in finding this place without too great loss of time and unnecessary and harmful handling of the intestines. Luecke gave the advice to seize and unite with the stomach the first intestinal loop that presents itself in the external median incision, and gave it as his opinion and the result of his experience that in doing so the anastomotic opening will invariably be made near the desirable point, not distant from the duodenum. This advice has led to serious mistakes. In one of the writer's cases, in which this direction was followed, the autopsy revealed the fact that the opening had been made eight feet below the pylorus, and in one of Lunenstein's cases the opening was found near the ileo-cæcal region, consequently nearly the entire length of the small intestines had been excluded from participation in the progress of digestion and absorption. In searching for the upper portion of the small intestines it is not always easy, as has been claimed by Hahn and Kënig, to find the plica duodeno-jejunalis, and as the result of quite an extensive experience the writer recommends the following plan: The first loop that presents itself is brought forward into the wound and is held in this position by an assistant, while the surgeon follows the intestine in one direction, observing carefully its color and the thickness of its walls as loop after loop is examined. If the intestine leads in an upward direction the color becomes paler and the walls thicker, and the duodenum will soon be reached. If he is tracing the bowel in an opposite direction the intestine becomes gradually smaller, its walls thinner, and the color more of a bright red hue. Should this be the case the loops of the intestine are returned, and the examination is made from the loop held by the assistant, in an opposite direction, which will soon lead to the part that it is intended to unite with the stomach. As soon as the desired loop is reached it should be twisted around, as advised by Rockwitz, and held in this position by an assistant until the anastomosis has been completed. Of 21 gastro-enterostomies collected by Rockwitz, made for malignant and cicatricial stenosis of the pylorus, the mortality is represented by 57.2 per cent. Billroth reports 28 operations for malignant pyloric stenosis, with 14 deaths. Of those that survived the operation all died in from one to eight months. This great mortality is due to the debilitated condition of the patients operated on, and the great length of time required in uniting the visceral wounds by suturing. Gastro-enterostomy, as heretofore described and performed, is an operation attended by many difficulties, and requires, even in the hands of an expert, an hour or more for its execution.

As this operation is only done in cases greatly debilitated by disease and long-suffering, anything which will simplify the technique and shorten the time must be looked upon as an improvement. An operation that can be done in ten or fifteen minutes, instead of an hour or two, and which furnishes much better conditions for the healing together of the margins of the visceral wounds, must take the place of the more complicated procedures, which so far have only been practised in the hands of the most experienced surgeons. The author has modified Wölfler's operation by securing opposition between the stomach and the intestine by means of perforated decalcified bone-plates, a method which greatly shortens the operation and brings the parts in a more favorable condition for speedy union. The approximation-plates are reinforced by a number of superficial sutures in the same manner as in establishing an intestinal anastomosis. Scarification of the serous surfaces included by the plates will greatly hasten the formation of firm adhesions and expedite the process of healing by granulation. As the mucous membrane of the stomach always shows a great tendency to evert, it should be fastened in the middle of the wound with a fine catgut suture before the wounds are approximated. A gastro-enterostomy, with the aid of approximation-plates, can be completed in from fifteen minutes to half an hour; while, if suturing is relied upon exclusively, the time required cannot fall much short of an hour and a half.

The following experiments of the author, taken from my work on "Intestinal Surgery," are well calculated to illustrate some of the advantages attending the use of absorbable approximation-plates over the ordinary methods of suturing in gastro-enterostomy:

Experiment 1.—Dog, weight twenty-five pounds. Incision made through linea alba, from xiphoid cartilage to near umbilicus. Omentum pushed to one side, and the stomach drawn forward into the wound; near the middle of its anterior surface a longitudinal incision was made, two inches in length, and a gutta-percha plate with a central oval opening the size of the pyloric orifice was introduced. Four medium-sized juniper catgut sutures were attached through small perforations around the opening, one at each end and one on each side. The lateral sutures, armed with needles, were passed through the entire thickness of the walls of the stomach, half-way between the angles of the wound. A similar incision was made into the intestine at the junction of the duodenum with the jejunum; the same kind of plate introduced, and the margins of the wound punctured by the lateral armed sutures, when the two wounds were brought *vis-à-vis* and the corresponding sutures tied. In

tying the sutures, the lower lateral suture was tied first and the threads cut short; next the sutures corresponding to each angle of the wound were tied, and lastly the upper lateral. The serous surfaces of the stomach and intestine over an area corresponding to the size of the plates were brought into accurate permanent contact by the tying of the sutures. The stomach was replaced and the abdominal wound closed. The animal was allowed to eat immediately after the operation, manifested no signs of illness or pain, and was killed seven days after operation. Abdominal wound healed. Omentum adherent to its inner surface. Union between stomach and bowel firm over the entire surface of approximation. Plates detached, the one in the bowel had passed, while the other was found loose in the stomach. The new opening was large enough to admit the index-finger.

Experiment 2.—Dog, weight fifty pounds. The operation was performed in the same manner as in the previous experiment, but great difficulty was experienced in bringing the stomach forward, as this organ was distended to its utmost with an enormous quantity of solid food. Evacuation was effected through the incision, aided by attempts of the animal to vomit, the violent contractions of the stomach forcing the food toward the opening, from which it was removed with fingers and spoon. After the stomach was emptied it was washed out with warm water. From the stomach a bone-plate, only partially decalcified, was used, while the approximation-plate in the bowel was fully decalcified. The four approximation sutures were of catgut. Several portions of omentum, which were soiled during the emptying of the stomach, were excised. The abdominal cavity was thoroughly irrigated with warm water before the wound was closed. The animal died the next day, and on opening the abdomen it was ascertained that the immediate cause of death was hemorrhage, as the peritoneal cavity was filled with blood. The bleeding undoubtedly took place from the omentum, by slipping or loosening of one of the catgut ligatures.

Experiment 3. — Medium-sized dog. Operation performed in the same manner with decalcified bone-plates and catgut sutures. The first two days the animal had several attacks of vomiting; it subsequently showed no signs of suffering. Appetite good and stools regular. Killed thirty-four days after operation. Omentum adherent to inner surface of abdominal wound. At point of operation stomach was contracted, so that the organ presented an hour-glass appearance. Interior of the organ contained a large mass of hay and fragments of bone. New opening large enough to pass index-finger. Union between stomach and bowel over entire surface of approximation. Water passed into the stomach flowed through the pyloric orifice and the new opening in a stream of equal size.

Experiment 4.—Large bull-dog. Approximation of anterior surface of stomach with bowel by perforated gutta-percha plates, and four catgut sutures. Length of visceral incisions, two inches. The day after operation the animal vomited his dinner; subsequently no unfavorable symptoms. Killed fourteen days after operation. Abdominal wound well united. Omentum adherent to wound, duodenum, liver, and at the point of operation. Firm adhesion between stomach and bowel. Water admitted into the stomach only passed through the pyloric orifice. On opening the stomach it was found that the wound in the stomach and intestine had completely healed, the site of incisions being marked by a narrow, firm cicatrix. The failure of obtaining an anastomotic opening between the stomach and intestine could only be attributed to one of two causes, viz.: either the perforations in the plates were too narrow, or the needles of the lateral sutures included too much tissue. Either cause would bring about approximation of the margin of the wounds and permanent closure of the opening by granulation and cicatrization.

Remarks.—All of the animals recovered, except in case of Experiment 2, without any untoward symptoms, although they were allowed to eat immediately after the operation, and the diet was not selected or restricted at any time. In the fatal case death was caused from complications which had no connection with the gastro-intestinal opening. In all of the specimens examined, the mucous membrane of the stomach and intestine which had been interposed between the approximation plates, presented a healthy appearance, showing that the pressure of the plates had exercised no injurious effect on this structure. More recent experience with this operation on animals has revealed the fact that in the stomach a completely decalcified bone plate is almost entirely digested in thirty-six to forty-eight hours. It would therefore appear advisable to use only partially decalcified bone, which remains for a longer time, so that in case of delayed union the approximation would be maintained for a sufficient length of time. As the animals subjected to the operation recovered promptly, and under the most unfavorable conditions, we have every reason to believe that this operation will be attended by the same favorable results when done for pyloric or duodenal stenosis in man, where a careful preparatory and after treatment cannot fail to facilitate the operation and to improve the conditions for the formation of early adhesions and a speedy definitive healing of the wound. I have no hesitation in recommending it as a substitute for the more time-consuming and less certain operation by the tedious and difficult method of double suturing which is now generally practised.

Gastro-Enterostomy by the Aid of Absorbable Approximation Plates.—*Preparation for Operation.*—The patient must be placed on a restricted diet for a number of days, and during this time the bowels should be evacuated freely by saline cathartics. If the stomach is much dilated it should be evacuated and washed out daily with an aqueous saturated solution of salicylic acid or Thiersch's solution. Irrigation of the stomach immediately before the anæsthetic is administered should never be neglected. The abdomen and anterior surface of the chest should be scrubbed with warm water and potash soap, shaved, and then washed with sulphuric ether or equal parts of turpentine and alcohol for the purpose of removing the fatty material and more effectually disinfecting the glandular appendages of the skin, and the umbilical depression. A compress saturated with a 1 to 2,000 solution of corrosive sublimate is now applied over the field of operation, which is then covered with an impermeable covering, such as gutta-percha tissue or oiled silk, and kept in place by a circular bandage, or a broad, snugly applied binder. If no contra-indication exists, chloroform is preferable to ether as an anæsthetic, as it is less liable to produce vomiting, an occurrence which should be guarded against as far as possible in this operation. If the patient is weak, two ounces of whiskey in a cupful of warm water should be administered per rectum just before the anæsthetic is administered.

Incision.—A straight median incision, extending from the ensiform cartilage to the umbilicus, will afford ample room to bring well forward into the wound the pyloric end of the stomach, and the loop of intestine which is to be united with the anterior surface of the stomach. The fastening of two or more catch-forceps to the parietal peritoneum on each side of the wound will facilitate the remaining steps of the operation. Hemorrhage must be carefully arrested by applying a sufficient number of hæmostatic forceps before the peritoneal cavity is opened.

Decalcified Bone Plates.—The material used for approximation plates should be such as to resist the action of the gastric and intestinal juices, and secure efficient mechanical support for at least three or four days. Plates are much better than rings, because they coaptate and hold in accurate contact larger surfaces of the peritoneum and at the same time act as splints, securing for the

parts interposed between them complete rest. After having used many kinds of material for this purpose I settled on using decalcified bone exclusively. This substance will give the desired mechanical support for a sufficient length of time, when it is absorbed or disintegrated and disappears spontaneously, and there is no risk of a foreign body being left in the stomach as an irritant and perhaps later on as a cause of intestinal obstruction. The mishaps in the use of plates that have happened in my practice have been all in the use of dried plates. I consider the use of all hygroscopic material for the plates as dangerous, as the swelling of the plates may cause extensive pressure necrosis. The plates are now kept in a solution of equal parts of alcohol, glycerine, and water, between two pieces of glass, so as to preserve their smooth surfaces and prevent warping. The fixation sutures should be medium-sized silk, as cat-gut sutures are not sufficiently reliable, the knot is liable to become loosened and slip, and this material, when exposed to the action of the gastric and intestinal juices, does not resist their destructive action for a sufficient length of time. I must continue to insist that the sutures should be fastened to the plates by the single stitch, as if anything should happen to the plate before adhesions have formed the sutures will still continue to hold the parts in apposition. The retention of the lateral or fixation sutures in the margins of the wound for weeks or even months is of no consequence, as I have seen the same repeatedly after circular resection of the intestine without any harm resulting from it. Eventually the threads will work their way through the tissues and escape. The size of the plate, and especially of the oval central opening of the plate, should be sufficiently large to insure a permanent opening in the stomach at least as large as the lumen of the normal pylorus. The perforation in the centre should be at least an inch and three-quarters in length and about half as wide. The margin of the plate around the oval opening should be from one-third to one-half an inch in width. In using plates of this size and with such large openings there is no danger of not obtaining a sufficiently large anastomotic opening which, when once formed and lined with mucous membrane, will not undergo cicatricial contraction.

Approximation of Visceral Wounds.—It has already been stated that the most desirable point for making the opening in the small intestine is about thirty inches below the obstruction. How this part of the bowel can be formed most speedily, safely, and with the greatest degree of certainty has already been described. As soon as the abdomen has been opened the great omentum should be pushed aside and the intestinal loop selected brought out at the lower angle of the incision. The direction of the bowel must be ascertained and then the loop brought into the position recommended by Rockwitz and entrusted to a reliable assistant, who should have sole charge of it until it has been united with the stomach.

The intestinal loop is surrounded with a compress of aseptic gauze, when an incision long enough to introduce the bone-plate edgewise is made in the concave side directly opposite the attachment of the mesentery. After the bone-plate has been properly adjusted the lateral or fixation sutures are passed through the margins of the wound equidistant from the angles and only enough tissue is included to hold the plates in place after the organs have been approximated by tying of the sutures. It is a good plan to direct the needles obliquely, from within outward, and to embrace all of the tissues with the exception of the peritoneum. While the stomach is subjected to the same treatment the intestinal loop is held as before. The opening in the bowel is covered with loose gauze, so as to absorb what little might escape from the interior of the intestine, which, under such circumstances, is usually nearly, if not completely, empty. As the stomach is usually more or less dilated, it can be found without any difficulty. The pyloric portion is brought forward into the wound and is surrounded with a compress of gauze wrung out of warm sterilized water. The opening is made in the anterior wall, near the great curvature, parallel to the long axis of the organ, and at least two inches from the border of the carcinoma. As the mucous membrane always bulges outward and the wound sometimes bleeds freely, both of these conditions are corrected by a few stitches of the continued suture with fine catgut. No force should be used in inserting the bone-plate, the incision should be sufficiently long to permit its easy insertion. After the plate has been properly adjusted and fixed by the lateral sutures and the serous surfaces which it is intended to bring into apposition by the plates are scarified, the two wounds are brought directly opposite each other and the approximation commenced by tying the posterior pair of lateral sutures; the threads are cut short to the knot. The sutures must be tied only with sufficient firmness to bring the parts into apposition without endangering the circulation. Next the end sutures are tied and lastly the anterior pair of lateral sutures. Before these are tied the margins of the wound in the stomach and bowel must be carefully pushed between the plate with a director or probe. The knots of the lateral sutures should be buried as deeply as possible, which can be done best with a probe or a pair of small, blunt-pointed scissors. It is advisable to support the action of the plates by a few superficial stitches of fine silk. On the posterior side these stitches should be inserted and tied before the plate sutures are tied. On the anterior surface approximation of the serous surfaces along the margins of the plates can be accomplished most speedily by a few stitches of the continued suture of the same material. After cleansing and drying the parts which have been exposed during the operation the stomach and with it the attached intestine are returned into the abdominal cavity, and the external wound is closed by a row of buried and superficial sutures. The external wound is either sealed with iodoform collodion, or the customary antiseptic hygroscopic compress is applied and held in place by strips of adhesive plaster.

After-treatment.—Stomach feeding must be postponed until quite firm adhesions have formed between the approximated parts, which will require at least two days. During this time the patient's strength is to be supported by rectal alimentation and thirst is quenched with small fragments of ice or sips of hot water. Anodynes should not be given unless the patient is very restless or suffers a great deal of pain. Should painful distention of the abdomen occur about the second or third day a saline laxative should be administered, and if required its action is assisted by a stimulating copious enema. After the first forty-eight hours small quantities of liquid food at short intervals are allowed, and at the end of the first week the patient is placed on a carefully selected diet, which must be continued until the process of repair between the approximated serous surfaces is completed. Patients should not be allowed to leave the bed for at least four weeks, as otherwise a ventral hernia at the site of incision is very prone to appear as one of the remote consequences of the operation.

(To be continued.)

Cleansing of the Hands after the Use of Carbolic Acid or Corrosive Sublimate.—Carbolic acid is removed from the hands by bathing them for a sufficient time in alcohol and then anointing them with lanolin. After the use of corrosive sublimate solution the hands should be bathed in a solution of common salt one to fifty, then washed with soap and water, and finally rubbed with lanolin.—*Pharmac. Central.*, No. 28, 1891.

The Influence of Arsenic.—Mr. Hutchinson, of England, has formed an unfavorable opinion as to the influence of arsenic in the treatment of skin diseases of elderly persons, and unless the disease imperatively demands it he never prescribes it for them.

THE ART OF TEACHING MEDICINE.[1]

By STEPHEN SMITH, M.D., LL.D.,

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THE Father of Medicine has been represented to us by an eloquent writer in the attitude of a teacher. He says: "Near a column of the temple, and holding a roll of papyrus in his left hand, stands Hippocrates. Gathering about him in picturesque little groups, there is a company of Greek youths. Their tasteful and elegant costumes, their earnest and intelligent faces, and their general air and bearing all show plainly enough the superior refinement and culture of the class to which they belong. They are medical students who have assembled here from the several states of Greece to acquire the clinical skill and experience of the great surgeon and physician of Cos."

It is not difficult to determine the method of instruction pursued in the school of Cos. Hippocrates was the contemporary of Socrates and Plato, and doubtless adopted the plan of teaching so popular at that period. "The method of instruction which Socrates chiefly made use of," says his biographer, "was to propose a series of questions to the person with whom he conversed, in order to lead him to some unforeseen conclusion. He first gained the assent of his respondent to some obvious truths, and then obliged him to admit others, in consequence of their relation or resemblance to those to which he had already assented. Without making use of any direct argument or persuasion, he chose to lead the person he meant to instruct to deduce the truths of which he wished to convince him, as a necessary consequence, from his own concessions. He commonly conducted these conferences with such address as to conceal his design, till the respondent had advanced too far to recede. On some occasions he made use of ironical language, that vain men might be caught in their own replies, and he compelled them to confess their ignorance. He never assumed the air of a morose and rigid preceptor, but communicated useful instruction with all the ease and pleasantry of polite conversation."

From this description of the method of instruction by the philosophers of that day, we can readily understand the art of teaching in the school of Cos. The temple was that of Æsculapius, and here the sick congregated for treatment, and here were kept the votive tablets, or records of sickness of all who sought medical advice within its precincts. With these patients who daily visited the temple, and the vast collection of records, as materials for study, the professor gathered his class about him and proposed a series of questions to each student; having gained his assent to some obvious truths, he would oblige him to admit others related to, or resembling, those to which he had already assented. In this manner he led the person whom he was instructing to deduce the truths of which he wished to convince him as a consequence of his own concessions. He disciplined certain students, always found in the class, who, owing to their conceit are very forward, and often impertinent, by the use of ironical language, by which they were caught in their replies and compelled to acknowledge their ignorance. This teaching was all done in a most familiar way, with the ease and pleasantry of polite conversation, and not with the morose and rigid air of a preceptor.

Such was the art of teaching medicine at this early period, and we now recognize it among the lost arts. The principle which underlies it is this: There must be such a familiar relation between the teacher and the pupil that the latter is constantly under the immediate and personal superintendence of the former, and instruction is given by mutual questioning and answering. Bacon quaintly, but very truly, remarks: "He that questioneth much shall learn much." This simple axiom embodies the whole art of teaching and of learning. In a scheme of education based on this principle the student is not a passive agent who simply receives what is offered him. On the contrary, he is active and aggressive; he is inquisitive but thoughtful; he is receptive, but only of demonstrated facts. Every step of progress in his studies is taken with precision, and no necessary questions are left unanswered. The student thus trained lays broad and deep the foundations that will insure future success. He will not, for he cannot, be indolent. Habituated to inquire, his mind will never be at rest. If ambitious, he will despise mediocrity and attain to distinction in whatever field he is placed.

In nearly every department of education but medicine the system of instruction is based on the above axiom. The student is placed in a position of constant questioning and being questioned. From the rudiments of each science to its most abstruse problems he has the attitude of an inquirer. The text-books which he studies are little else than questions. The instructor is constantly inviting questions, and answering or explaining doubtful points. The prevailing systems of education require personal contact between teacher and pupil. Every feature of the school is subservient to the one great purpose of facilitating questioning and answering on the part of the student. To that end the building is planned, the furniture selected, the apparatus supplied, the books chosen, and the teachers employed. The student is the unit in this system, and every condition must subserve his interests.

Far different is our system of medical education. The student no longer studies. He "reads" medicine. Two-thirds of the year he idles away his time reading works which have not the slightest adaptation to his wants. He is alone, and hence he asks no questions. There is little in the books to stimulate a solitary student to inquiry. During the remainder of the year he attends lectures in a medical school where his individuality is completely lost. There is no classification of students according to their grade of advancement, but all stand on the same footing and listen to the same lectures. In this common and miscellaneous gathering the student sinks into insignificance, while the professor becomes the most prominent feature of the school.

All the appointments of the college are designed to increase his importance and to facilitate the discharge of his duties as a lecturer. At each lecture the entire body of students assemble; the professor enters with due formality and delivers himself in an oracular manner; he retires, not to be seen again until the next lecture. Sometimes the professor asks a few general questions before his lecture, which one or two of the class always promptly answer. But the remaining students are dumb in the presence of their teacher, and open not their mouths. Occasionally a student of the inquisitive, Baconian type follows the professor to his private quarters, and plies him with questions, but he soon learns that his inquiries are not agreeable, and he ceases to enjoy this small privilege. The professor is the unit of interest in this school.

These facts suggest the question: Should not our system of medical education be placed on the same basis as that which gives so much value to other branches of study? In other words, should not the medical course of instruction be graded, and the medical student be required to pass through these several grades under the immediate instruction and direction of his teacher? We give an emphatic answer in the affirmative. By no other method can justice be done to the student in the present enlarged and exact state of the medical sciences. The primary branches—anatomy, chemistry, and physiology—cannot be more adequately taught by lectures than mathematics, Latin, or Greek. And the same is true of the practical branches—medicine, surgery, and obstetrics. The method of teaching these latter subjects by lectures alone is best illustrated by the saying, that it is learning to swim without going into the water, or becoming a navigator without seeing a ship. Nor should our present methods of giving clinical instruction by lectures be excepted from the general condemnation. The

[1] Address before the New York State Medical Association, October 28, 1891.

student may gain some useful hints from the coarser operations in surgery, and from the exhibition of a few cases of the gross forms of external disease. But how meagre the amount of practical knowledge gained, compared with what he would have acquired had he been brought into personal contact with the subject, and been required to use his own eyes, ears, nose, and fingers under the immediate guidance of a skilful instructor! And how much the amount and value of that knowledge would have been enhanced if he had had the privilege of questioning and being questioned in reference to every doubtful point in his investigation! If the case were one of disease of the heart or lungs in which the diagnosis depended upon an accurate appreciation of a sound, of what immense importance to the student are the immediate and familiar promptings of a teacher! Perhaps at the commencement of the present century, when the medical sciences were comparatively in their infancy, and largely theoretical, teaching by lectures may have been adequate. We have, indeed, a remarkable illustration of this fact in the early history of Dartmouth Medical College. For twelve years Dr. Nathan Smith was the Faculty, and gave all the lectures on all the branches then taught, being at once Professor of Anatomy, Surgery, Chemistry, and the Theory and Practice of Medicine. But what a vast development of the medical sciences has been made during the century! Not only have they been enlarged far beyond the comprehension of the earlier teachers, but they have been perfected in details until many of them may be classed with the exact sciences, while all are complete in terminology and classification. Even the practical branches are becoming less and less theoretical and speculative as investigation by improved means and apparatus daily add new facts and determine doubtful questions.

Medicine having, therefore, assumed the rank and character of the technical sciences, should be taught by the method approved by the best educators. This method has as its basis the gradation of subjects from the rudiments of the science to its most complex forms; classification of students according to their advancement in the course of study; an organization of classes so that every student thoroughly reviews each subject under the immediate supervision of a competent instructor; ample means of illustrating every subject, and of enabling the student personally to learn by practical demonstrations and experiments; the preparation of text-books adapted to this method of instruction.

It is not difficult to outline a medical school which would realize the ideal contemplated in the foregoing sketch.

First, the school should be so located as to have all the necessary conditions for anatomical, chemical, physiological, and clinical demonstration and research; the building should be so constructed that there is an ample supply of class-rooms, each being adapted to the particular branch taught in it. Thus the anatomical room or rooms should have all necessary facilities for dissection; the chemical and physiological rooms equipped for every form of experiment required; the rooms for the practical branches and clinical instruction adapted for their special purposes; a department arranged for post-graduate courses of study; finally, a hall for lectures to the general class or to special classes.

Second, a faculty should be selected composed of one professor for each general branch taught. Each member of the faculty should be the highest authority in his branch obtainable. This faculty should be the governing body, having as duties the supervision of the teaching, the selection of instructors, the final examination of students for graduation, and the delivery of such lectures as may be deemed necessary to supplement the direct instruction of the tutors.

Third, a corps of instructors, selected for their known qualifications to teach the branches to which they are assigned.

Fourth, a division of the students into sections or classes, not to exceed twenty-five in each; the division being based upon a grading of the students according to their proficiency or advancement in each branch of study; to each section an instructor should be assigned who will be immediately responsible to the professor for the thorough training of each member of his class.

The practical operations of the school might be on the following plan: The term should comprise the year, with a short summer vacation, in order that the student may be in continuous training under his instructor. The recitations should be at such intervals as will secure time for preparation. At the recitation each student should receive such an examination as will satisfy his instructor that he thoroughly understands every point in it. Such recitations should be devoted to acquiring exact technical knowledge, and practical demonstrations by the student, under the immediate supervision of his teacher, of every subject which admits of illustration by experiment or any form of manipulation. If the subject is the anatomy of the skeleton, the pupil should demonstrate, with the bones in his hands, each feature of the lesson; if the soft parts are under review, he should show his knowledge by dissection; if the lesson is in chemistry or physiology, he should prove every proposition by experiment; if the studies are clinical, he should personally examine the patient in every detail necessary to a correct diagnosis, and subsequently follow the case to its termination. Whenever a student in any branch appears to the instructor to be thoroughly qualified, he should be examined critically by the professor of that branch or science, and if found qualified, should be duly certified by the professor, and advanced to the next grade of study. Thus he proceeds until he completes the curriculum prescribed, when he receives a final examination by the faculty, and if qualified, graduates.

In a school organized and managed in the manner described, time may be eliminated as a factor to be considered in graduation. Educational qualification alone should determine that question. In such a school, also, the better students can be advanced more rapidly than others less apt in learning, by suitable classification.

Nor are lectures precluded as an element of instruction. On the contrary, lectures by the professors on certain subjects, especially in the practical and clinical parts of the course, would be useful and hence desirable. With the adoption of this system of teaching would follow the necessity of the preparation of a series of text books. Scarcely a work now in the hands of students has that systematic arrangement and treatment of subjects which would adapt it to a completely graded course of medical instruction. Our works on anatomy, physiology, chemistry, and the practical branches are deficient in that orderly development of the sciences which they are designed to teach, and of that clear and precise statement of facts, and logical deductions on which their conclusions are based, which the student requires.

This discussion suggests the pertinent and practical question: Can existing medical schools adopt and successfully manage this scheme of instruction? There would seem to be no feature in the plan which it would prove difficult to realize. Buildings could readily be adapted to teaching by recitations; instructors may be obtained, of the highest order of qualification, in unlimited numbers; each department can be equipped with every necessary appliance for demonstration, experimentation, and illustration; and, finally, suitable text books would, as in the academic schools, soon be amply supplied. But we are not left to conjecture as to the practicability of at once reforming our system of medical education on the basis now proposed. Already one of our largest metropolitan medical schools has adopted the method of instruction by recitations, in what may be called the primary branches, and with gratifying success. Several other medical colleges in different parts of the country have also, in whole or in part, adopted this system with equally good results. These are gratifying indications of a revival of the ancient and true Art of Teaching Medicine.

LEPROSY.

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It is not the object of this article to enter into a historical sketch of leprosy, but only to say in that connection that the disease which we know as leprosy to-day is without doubt not the leprosy described in the Bible and other ancient writings. The term leprosy, as used in the Bible, certainly included more than one form of skin disease. That disease developed rapidly, important changes taking place in two or three weeks. The disease which we know now as leprosy has a slow development, months and even years passing before notable changes occur. Also, the accounts in the Mosaic writings give no indications of the three characters which may be said to constitute leprosy of the present time: tubercles, anæsthesia, and distortion of parts. Moreover, the most noticeable characteristic of that form—namely, its extreme contagion—is almost absolutely wanting now.

Leprosy, which a few centuries ago, and even a few decades ago, was confined to a few countries, such as the Sandwich Islands, Norway, India, etc., is now, due no doubt to the easy means of communication and travel, becoming a more or less common disease. There are now in the United States three or four centres of it. The first cases of leprosy in each of these places were emigrants from countries where leprosy exists.

There are two forms of this disease, the tubercular form and the anæsthetic form; to which may be added the mixed form, or the tubercular and the anæsthetic forms occurring together. The latter form is by far the most common.

A case of pure tubercular leprosy presents the following characters: The first evidence of the disease is the appearance of one or more little hard nodules or tubercles of about the size of a pea. These appear in most cases first on the cheeks, chin, nose, or ears. These nodules are slightly tender on pressure, and in Europeans of a dull red color. The skin for some distance about is found to be somewhat thickened. It is probable that this tubercular thickening of the skin precedes in all cases the appearance of the tubercles. At this early stage, and for some time afterward, the general health of the leper is good.

After the first appearance of the thickened skin and tubercles, in which the constitutional symptoms, fever, etc., are slight or unnoticed, there is no apparent progress of the disease for several months or a year, or even longer. Then occurs an outburst of new tubercles, or an increase in size, or ulceration, of the old ones, and the skin seems at the same time to have taken on an increased thickening. This exacerbation is preceded and accompanied by fever, varying in intensity from 101° to 105° F. The latter temperature is most common in the later stages of the disease. There is commonly vomiting and other signs of derangement of the system at these times. These symptoms last from three days to two weeks, after which a period of quiescence supervenes and no advance of the disease is seen. As time goes by these onsets of the disease become more frequent and severe. Tubercles appear on the hands and feet and lower legs. The hands and fingers become thickened and puffy, as also do the feet and the toes, and the nails become scaly and cracked. About this time tubercles may appear also in the throat. The appearance of the face at this later stage is very characteristic—the thickened, lumpy look of the cheeks and chin, the knobbed appearance of the nose, the heavy œdematous ears standing out from the head as if they had been severely frost-bitten, give a look not to be mistaken. At this stage of the disease, and exceptionally in the earlier stages, the tubercles may break down and ulcers be formed. This occurs most commonly on the lower extremities. These ulcers may run into each other and become broad, but are never deep. The ulcers are acute and usually heal up after an exacerbation has passed, but in some few cases continue chronic till the death of the leper.

The general health of the leper, at first good, has begun to suffer after five or eight years' continuation of his disease. He falls into a weak state and very gradually sinks lower and lower with each exacerbation, and finally dies of inanition.

The duration of a case of tubercular leprosy is from twelve to forty years.

A case of pure anæsthetic leprosy presents the following characters: The first evidence of the presence of the disease is the appearance of a patch of hyperæsthesia, usually on the hand or on the foot. These patches have a burning sensation, more or less marked, and in size may include half the surface of the hand and a finger or two, or a corresponding part of the foot. Pressure on these patches, as in walking, excites a severe burning feeling. The patch can be traced out as being the parts supplied in the distribution of some one nerve or a branch of a nerve. This hyperæsthesia lasts for only a short time and is replaced by complete anæsthesia, at first superficial, but later extending into the deep parts.

Little by little, but by continuous advance and not by sudden exacerbations, the whole hand or the whole foot is involved. The parts begin to atrophy slightly and the flexor tendons to contract. At the same time lancinating pains are felt in the arm or leg. These pains are in the first stages not severe. After a period of four to six years both hands and both feet are usually affected, and distortion, due to contraction of the tendons and to the atrophy, begins to be marked. The leper is prevented now from doing work, owing to his inability to use his fingers, and in walking he has a characteristic gait, due not only to the deformity in his feet and toes, but also to the pain in his legs which is increased by motion.

At this stage, or a little later, ulcers begin to attack the parts. They commonly begin first in the feet. These ulcers have clean-cut edges, do not have a tendency to broaden out, but eat in deeply. A favorite place for a first ulcer to appear is at the base of a big toe. Its course is slow but persistent. It burrows till the joint is reached and involved, when the whole toe dies and is separated. This leaves an open ulcer which is slow to heal, but after a variable period of two months to a year it cicatrizes, leaving a characteristic rounded stump. The process of the separation of the finger is the same as that of the toes. During the continuance of one of these ulcers the leper suffers from fever, 100° to 102° F., which continues usually for weeks.

In some lepers the distortion of fingers and toes, due to the contraction of the flexor tendons, is the most marked outward sign of the disease; in others the ulceration and loss of fingers and toes is the most prominent sign. The face has no characteristic look in this form of leprosy.

Anæsthetic patches may occur on other parts of the body as well as in the hands and feet. But in such other places no changes take place, save in some cases a scarcely perceptible atrophy.

The mode of dying is the same as in the other form of leprosy—inanition. The duration of this form is also about the same as the other form.

The mixed form is by far the most common form met with. Probably twenty cases of the mixed occur to one case of the pure tubercular or pure anæsthetic leprosy. In the mixed leprosy there is the steady, slow advance of the anæsthetic form, with its gradual distortion of fingers and toes, and its shooting pains, its burrowing ulcers, loss of parts, and low, long-continued fever, combined with the sudden eruption of tubercles, the sharp onsets of high fever, and disfiguration of features of the tubercular form.

The duration of a case of the mixed leprosy is rather shorter than that of one of the pure forms.

Case I.—Male, Hindoo, aged twenty-one; pure tubercular leprosy; duration of disease, six years. The first

evidence of the presence of the disease was the appearance on the chin of a little hard nodule, which was slightly painful on pressure. After some months other small tubercles appeared near the lips. He then noticed that the skin in the vicinity of the nodule had become thickened. Later on, the same characteristic tubercles appeared on the nose. When these latter appeared he remembers first to have suffered slight constitutional derangement—a fever lasting a few days. With the advent of the tubercles on the nose there was an increase in size of the tubercles on the chin. In succession the cheeks, the lobes of the ears, and the forehead were invaded. With each outbreak of new tubercles temporary ulceration of the old ones was noticed.

During the last year or two constitutional symptoms have been somewhat marked. This consists of fever occurring once in two months, 102° F. to 103° F., lasting for three to eight days, and accompanied by vomiting. Up to two years ago his feet and toes were normal in appearance. At that time they gradually began to take on a swollen or thickened look, three or four indefinite tubercles were formed on the dorsum of the foot near the toes, and the nails began to crack somewhat and grow scaly. At the present time the feet and toes have a marked puffy look, tubercles not distinctly marked. The nails are noticeably thin and scaly. His hands are quite normal; appetite good except at the times when an onset occurs. Strength at present not notably impaired.

His father was affected by this form of leprosy, and was suffering from it before the birth of this boy. The father died fifteen years after the development of his disease. The patient has one brother older and one sister younger than himself. Neither are affected; mother not affected.

Case II.—Male, East Indian, aged twenty-two; pure tubercular leprosy; duration of disease, ten years. The disease first appeared on both cheeks in the form of little hard lumps, slightly painful on pressure, and having a dark red color. After a period of about one year the lobes of the ears began to show nodules, and the entire external ear began to thicken. At the time when the ears began to show the disease the patient first had slight constitutional disturbance, the usual fever. This case has progressed slowly, an exacerbation occurring once in about a year. At those times the fever is 102° F., and disappears usually in three days. At no time have the tubercles become ulcerated. The nose began to show tubercles about two years ago. In this case the ears are the parts which show the disease most plainly. They are heavy and œdematous and nodular. The whole face is, however, taking on the characteristic lumpy and thickened look. No anæsthetic patches on the body.

His mother had mixed leprosy, and died with it after suffering from it nineteen years. His father died of old age, entirely free from leprosy. The leprosy appeared in the mother after this man was born.

Case III —Female, East Indian, aged thirty-five; pure anæsthetic leprosy; duration of disease, twenty-eight years. At the age of seven years this patient first noticed that the great toe and inner aspect of one foot were numb. She had not noticed any hyperæsthesia. After two or three years the anæsthesia was noticed to have spread over the entire foot, and the other foot was also beginning to be involved. There were pains in the legs, often severe. About five or six years after the first symptoms of the disease a sand-crack appeared in the plantar surface of the foot first affected, near the base of the great toe. At this time the patient suffered from moderate fever. After about one month an ulcer formed here, small and circumscribed. Soon after the ulcer was established the fever disappeared, the toes began to atrophy, and some contraction of the flexor tendons was noticed. The course of the ulcer was slow, but month by month it became deeper, and after about one year the toe was so affected that the patient had it removed. The resulting ulcer was considerably over a year in healing. During this time the patient suffered somewhat from fever. By this time, the seventh year of the disease, the second foot was entirely involved in the anæsthesia, and there were two other ulcers established, one on each foot. At this time patches of anæsthesia began to appear on the hands, preceded by slight hyperæsthesia. After one or two years beginning atrophy of the fingers was noticed, and the contraction of the flexor tendons in the fingers and hands began to be so great that the patient describes it as distinct sensations of drawing. Darting pains also, often severe, were complained of in the anus now, as well as in the legs.

Little by little the ulcers increased in number, eating away the toes, till now, after twenty-eight years, all the toes are gone and the feet are stumpy and somewhat atrophied. By degrees the fingers have been distorted, till now they are drawn nearly down to the palms of the hands. The little fingers are drawn down most completely. This patient has never had ulcers on her hands.

Her general health is fair, but she suffers from fever at times, and complains of pain in arms and legs, and says that she does not eat and sleep well. Menstruation regular.

An uncle and a cousin and a sister have died of leprosy, all the tubercular form.

Case IV.—Male, Hindoo, aged fifty-three; pure anæsthetic leprosy; duration of disease, nineteen years. The patient first noticed an anæsthetic patch just below the knee, and later an ulcer of the characteristic anæsthetic type appeared there. However, after more than a year it healed without attacking the bone. After two years the anæsthesia had spread to the foot and entirely involved it. An ulcer appeared under the great toe, with the result that the toe was lost in about a year. By this time the other foot had become overspread by the anæsthesia. Ulcers appeared in succession at the base of the remaining toes, and at the present time he has only three toes left, and they are in a process of separation. The patient has suffered with the usual fever and pain. One hand is entirely healthy, the other has been anæsthetic for five years. One finger of the anæsthetic hand is slightly contracted. The patient states that his health is good. The family history shows that no other members have been affected.

Case V.—Male, Hindoo, aged twenty-five, mixed form; duration of disease, ten years. The first indication that this leper had of his disease was an anæsthetic patch on his thigh, and after some time a similar patch on his forearm. After about two years he noticed anæsthesia in one hand. This was preceded by hyperæsthesia. Gradually both hands were overspread by the numbness. Later both feet were involved. About four years ago he noticed one or two tubercles on his chin. One year after their appearance the lobes of his ears began to show small tubercles and to become thickened. Up to this time he had suffered only from pain in his arms and legs, but now, as the tubercles came on the characteristic fever appeared with the evolution of each new crop of tubercles, or increase in size or ulceration of the old ones. The highest recorded fever has been 102° F. There has been some vomiting.

About a year and a half ago a characteristic ulcer was formed at the base of the second toe of the foot first affected. After nine months the toe was separated. The ulcer is now partially healed. Another ulcer has formed at the base of the great toe of the same foot, and the toe is in the process of separation.

One finger of one hand is slightly contracted. In the other hand there is no contraction of the fingers. All the fingers of both hands are slightly atrophied. His father died with leprosy five years ago—the mixed form. The father developed leprosy five years after this boy was born. One younger brother is also suffering from mixed leprosy. The mother and an older sister are free from the disease.

Case VI.—Female, Hindoo, aged thirty-two; mixed

form; duration of disease, eighteen years. At the age of twelve years she noticed a patch of anæsthesia on the index and ring fingers of her right hand. This patch had also extended up on the corresponding part of the dorsum of the hand, but not on the palmar surface. After one year the whole hand had become overspread by the anæsthesia, and darting pains were felt in the arm. By the end of three years the other hand was entirely without feeling, and the anæsthesia had begun to appear in the feet. Darting pains, more or less constant, were now experienced in both arms and both legs. About this time a small nodule of about the size of a pea came on the chin.

By the end of three years more both feet, as well as both hands, were entirely anæsthetic, contraction of the flexor tendons had become somewhat marked, and nodules had appeared on her cheeks and on her ears, especially in the lobes.

With each increase of the tubercles the constitutional symptoms had been marked, even from the beginning. Fever, often severe and lasting for two weeks, was noted. Tubercles on the hands and feet and lower legs became marked at this time. At each exacerbation the old tubercles ulcerated.

When the patient was nineteen years old an anæsthetic ulcer appeared in the bottom of her right foot, near the base of the great toe. Its course was slow, but after about one year and a half the joint became affected and the toe was lost. The resulting ulcer healed slowly. As time went on the other toes were lost, one or two dropping off every year.

Nine years ago the first anæsthetic ulcer appeared on the hand. This was on the palmar surface of the second joint of the ring-finger. The joint was soon attacked and the part of the finger anterior to the ulcer was lost. The stump was enlarged owing to the modifying influence of the presence of the tubercular disease. The same thickened and swollen look of the stumps is seen in the feet.

The menstrual functions were regular till seven years ago, when the discharge became scanty and appeared at longer intervals than normal. There has been no menstrual discharge for the past three years.

Condition at the Present Time.—All the fingers and all the toes have been lost, the skin of the entire face is much thickened, the chin, the cheeks, and the forehead are studded with tubercles, from a pea to a small nut in size. The nose has a knobbed look, the ears are thickened, nodular, and have a heavy œdematous look.

As to bodily condition, the patient is not notably emaciated, but is only weak. For several months she has walked only a few steps daily. For the last year she has suffered constantly from fever, 101° F. to 105° F. Vomiting also has been persistent. She will evidently live but a few weeks longer.

This leper's father is healthy. Her mother was a leper. The mother developed leprosy one year before this child was born, and died of dropsy one year later. The patient has no brothers or sisters.

As to the contagiousness of leprosy, there is no doubt that a perfectly healthy person receiving virus into his system from a leper may develop the disease; but it is almost absolutely certain that the great majority of the human race cannot contract the disease by contact, however free. At the Leper Hospital in Madras, India, there are somewhat over two hundred and fifty lepers. Most of these are in a condition to require daily dressing of their ulcers. Three dressers are here employed for this purpose. The dressers use the naked hands in doing this work, handling and rubbing the ulcers most intimately. One dresser has been employed in this work for twelve years, another ten years, and another five years. None of them have contracted the disease. The reason may be put down that these dressers are healthy men, having no taint of leprosy in their family in past generations.

This leper hospital has been founded about fifty years. During that time a large number of persons have been employed about the grounds and in the buildings, as gardeners, ward-masters, apothecaries, etc., and there is, so far as known, only one case in which a perfectly healthy man, with a family history free from leprosy, became affected with the disease.

I have known about fifty healthy persons who have been exposed, with every seeming possible means of taking the disease into their own systems, and they have remained free from it; and I have known three persons who were without family taint of leprosy, and yet who on exposure have contracted the disease.

On the strength of these figures a rude rule might be formed that one person in every fifteen or twenty of the human race, although with no leprous taint in his family, may become a leper on association with lepers. As to the real width of the contagiousness of leprosy, this rule may be very wide of the mark, but to one who has observed leprosy carefully the opinion must be irresistible that the great majority of the human race are entirely safe though associating daily with lepers.

As to treatment, much may be done to alleviate the intensity of the disease. The frequency and severity of the attacks of the tubercular form may be in a measure abated, and the steady, relentless progress of the anæsthetic form may be somewhat stayed. The two remedies which accomplish the most decided good are gurjun-oil and chaulmoogra oil. The former was in much repute a few years back, but has in the past few years rather given place to the latter, as the chaulmoogra-oil, a newer remedy, has been found to be more active. It is the expressed oil of the gynocardæ seminis, and may be obtained in the native bazaars or from government medical stores.

Six minims of the pure oil are given in milk, morning and evening. This amount is slowly increased each day till about thirty minims are being taken twice a day. At this point the stomach usually becomes intolerant, and the remedy has to be discontinued for several days, to be begun again at six or eight minims.

A one in twelve mixture with cocoanut-oil is made up for external use. About two drachms are given to each patient daily of this mixture. This is thoroughly rubbed into the skin over the whole body, after which the leper sits for two or three hours in the sun. A bath is then taken in tepid water.

The ulcers are dressed as follows: The bandages of yesterday are taken down and the ulcers are carefully washed with warm carbolic lotion, 1 in 100. The mixture of chaulmoogra-oil and cocoanut oil is then applied to the ulcers. Or if the ulcers are especially badly conditioned, the pure chaulmoogra-oil is rubbed on with a dusting of iodoform. Small squares of cloth, spread thickly with rice paste and charcoal, are then applied to the parts till all is covered, when the whole is bandaged up. When fever comes on quinine is given. Antipyrin and its congeners will relieve fever more promptly, but less permanently.

There are three cases in the Madras Leper Hospital who have been under the Count Matei treatment. They have all become very much emaciated, which is uncommon in leprosy, and notably weakened. One of the patients, however, praises the treatment and announces his wish to resume it as soon as he is able to stand it again, as his sufferings were much less while taking it.

In the last month Koch's lymph has been given a trial with about twenty lepers. In twelve cases reaction was produced, fever of 103° to 105° F. All cases were begun on 0.001 c.c.; and in eleven cases the maximum dose of 0.01 c.c. was given for some time on alternate days. One leper, suffering from the mixed form, after two weeks' treatment was *in extremis*. Prostration was great, and for several days life was maintained only by stimulation and rectal alimentation. On the fifth day after discontinuing injections the patient began to regain strength

and after one week more was able to walk about, though strength was not fully restored.

Another leper, suffering from the tubercular form, in whom reaction was marked, developed after the sixth injection a coarse and fine papular eruption over his entire body, which is still persistent.

In all cases in which injection of the Koch lymph resulted in reaction, prostration was more or less marked; and in no case treated could any improvement be noted. The lepers themselves have become much opposed to the treatment. Although leprosy cannot be cured in the individual, it may be eradicated from the country if energetic measures are taken. In the Middle Ages leprosy was as prevalent in parts of Europe as it is throughout India to day. Leper asylums, or homes, were established here and there, and all persons suffering from the disease were compelled by force to enter them and remain there till their death. The sexes were separated. The result was that when that generation of lepers had died the disease had disappeared from the Continent.

Unless some such measures are taken in the future, leprosy will slowly spread and become one of our most common diseases.

Progress of Medical Science.

Fuchsine in Diseases of the Throat. — Dr. Bogroff claims that (1) fuchsine, like all other aniline dyes, is easily absorbed by the laryngeal and faucial mucous membrane; (2) antiseptic fluids when mixed with fuchsine penetrate into the tissues far more deeply, and act much more effectively, than when employed alone; (3) when injected into the larynx the superficial cellular elements and intercellular spaces become infiltrated with particles of the aniline dye, and thus a thin protective film is formed, which is impermeable not only by any irritating fluids, but even by gaseous bodies; (4) in cases of reactive laryngeal inflammation arising in phthisical patients from constant irrigation by the pulmonary discharge, the intralaryngeal injection of a two per cent. watery solution of boracic acid saturated with fuchsine rapidly removes the inflammatory phenomena and relieves difficulty in swallowing, etc.; (5) fuchsine proves similarly beneficial in cases of faucial mycosis. The author cites the case of a medical man suffering from that affection, in whom local irrigations with a 1 per 1,000 corrosive sublimate solution mixed with the dye quickly brought about a complete cure, after energetic antiseptic treatment by the ordinary methods had utterly failed. Dr. Bogroff believes, further, that in intra-laryngeal medication the admixture of fuchsine with other medicaments may also be found useful as a means of determining whether the drugs reach their precise destination, and whether they do so in sufficient quantities.—*The British Medical Journal.*

Billroth's Statistics on Exsection of the Stomach and Intestines.—Professor Billroth has published statistics of 124 resections which have been made in his clinic from 1880 to 1890; 83 were by himself, 3 by Wölfler, 8 by Hacker, and 15 by Saltzer and Eiselberg. The cases were all chronic processes with pyloric stenosis, malignant forms of swelling. There were 41 cases of pyloric resection (7 males and 34 females, with ages from twenty-six to fifty-eight years). The operations lasted from 1¼ to 3½ hours, with removal of 4 to 21 ctm. of the intestine. The cause of operation was: In 28 cases, carcinoma; in 1 case, sarcoma; in 12 cases, callous cicatrices. Results: 19 cases recovered, 22 died. Of 27 typical pyloric resections, 12 were favorable and 15 fatal. Of the 13 cases of carcinoma that had endured the ordeal of the operation, 5 died after ten months, and 1 after 5¼ years, from recurrence. There were yet living three women, of whom two had been operated upon 2½ and 4½ months. There were 6 operations on account of scar stenosis, of whom 3 recovered. One patient died after three months from peritonitis, caused by an abscess in the cicatrix. There were 28 gastro enterotomies on account of carcinoma, with 14 recoveries. These all died in from one to eighteen months. Of 11 resections of the small intestine (7 males and 4 females), all were favorable. (Eight times on account of preternatural anus, once traumatic opening of intestine, and once carcinoma.) Of 24 resections of the cæcum, there were 11 on account of carcinoma (with 5 recoveries); 13 on account of fistula after perityphlitis (7 recoveries, 5 deaths, and 1 persistent fistula). Of total cases of cæcum resections, 11 deaths, 13 recoveries. Of 8 colon resections, 4 deaths and 4 recoveries. Of 7 resections of rectum all recovered, 5 times with formation of fistula.—*Wiener Medizinische Wochenschrift.*

Painful Sensations in Heart Disease.—Professor Nothnagel discusses this subject in a short paper, containing in a tabulated form the results of his investigations as recorded in his hospital case-books. He says that it is not uncommon to meet with patients complaining of painful and various unpleasant sensations in the region of the heart. If the thoracic organs are found healthy, these symptoms are usually looked upon as due to dry pleurisy, rheumatism, or intercostal neuralgia. Increased experience suggests the question, however, Why, if such is their nature, should these affections be limited to the left side, and not localized in the right half of the chest and back as well? A close relationship to the heart is indeed indicated. In some patients, markedly neurotic, subjective sensations are referred to the region of the heart, when this organ is perfectly normal. Professor Nothnagel tabulates 483 cases of valvular disease observed in six years. Here the frequency of cardiac pain differs very much with the valve affected. In disease of the aortic orifice it is much more frequent than in mitral affections, being met with most often in aortic regurgitation with stenosis of the same valve, most seldom in insufficiency of the mitral. Thus, in aortic insufficiency, painful sensations were recorded in sixty-eight per cent. out of a total of 114 cases; in insufficiency and stenosis of the same valve in sixty-eight per cent. On the other hand, only 7⅔ per cent. of a total of 183 with regurgitation at the mitral valve had these sensations. It is interesting to observe that a combination of aortic and mitral leakage produced the symptoms in only eighteen per cent. This result confirms those of other authors who have generally limited themselves to recording the so-called steno cardial (anginose) attacks with pain usually radiating down the left arm. These statistics include, besides, less definite painful disturbances. Most authors mention the steno-cardial attack only in aortic disease, and Germain Sée states they are limited to this form of valve affection. This Nothnagel confirms generally; but he gives a case, on account of the rarity of such attacks, where the lesion was a pronounced stenosis of the mitral orifice. Other forms of painful sensation complained of are sticking, tearing, burning, boring pain in the præcordia, which is almost continuous. Sometimes the feeling is as if the heart would be plucked out. Or paroxysms of violent pain, together with sudden and severe palpitation, may occur. In both cases the pain may radiate into the left side or back. Still further, there may be a feeling of a foreign body in the left chest. It is noteworthy that objective alterations of sensation may frequently be present on the skin, and not only with steno-cardial attacks, but likewise in the other forms. The skin over the præcordia may be more sensitive than that of the right side, or there may be a feeling of pins and needles, and this may extend to the left side of the thorax and back, close to the vertebral column. Firm pressure against the intercostal spaces in the cardiac region produces tenderness there, or even actual pain, and this tenderness may often be observed in the whole region of the third to the seventh intercostal nerves.—*Montreal Medical Journal.*

Clinical Department.

A CASE OF RETRACTION OF THE EYEBALL.[1]

By FREDERICK E. CHENEY, M.D.,

ASSISTANT SURGEON TO THE MASSACHUSETTS CHARITABLE EYE AND EAR INFIRMARY; OPHTHALMIC ASSISTANT TO THE OUT-PATIENT DEPARTMENT OF THE MASSACHUSETTS GENERAL HOSPITAL.

THE patient whose case I have to report is a young woman of English parentage and birth, aged twenty-seven. She was first seen by me at the Massachusetts Charitable Eye and Ear Infirmary, March 19, 1891, when she gave the following history: There has always been more or less discomfort and pain in the head after reading or other near work; for the last three months the headaches have been severe and almost constant. While living in London, two or three years ago, she consulted Mr. Nettleship, and was examined by a number of other gentlemen at that time. The eyes have never moved freely from side to side, and the right has always appeared somewhat smaller than the left. Double vision is noticed occasionally after prolonged use of the eyes, but disappears quickly when the work is discontinued. Her general health is good, and no troubles other than those mentioned are complained of.

Upon examination the right eye appears somewhat smaller than the left, due probably to its being a little deeper seated in the orbit. The lateral movements are decidedly defective; movement outward is absent in the right eye and very limited in the left; movement inward is very limited in the right eye, but fairly good in the left, though less than normal. No limitation in the vertical movements could be detected. When an attempt is made to converge strongly, or to follow an object far to the left, the right globe sinks back into the orbit to a very noticeable degree. As the eye recedes the upper lid droops, and, retaining its contact with the surface of the eyeball gives a sunken appearance, suggesting the presence of an atrophied globe behind it. The lower lid, however, does not sink backward, but is separated from the globe over its entire surface by a very considerable space. After the first effort the eye comes forward a little, but does not regain its normal position until the effort is discontinued. The degree of retraction was measured on three different occasions and found to vary from three and one-half to four and one-half millimetres. There is also a slight retraction of the left eye, but it is not sufficiently noticeable to attract attention unless examined with some care. The pupils are equal, of normal size and reaction; the accommodative power is good; the transparent media and fundus of both eyes are perfectly normal. The vision of the right eye with $-.25$ D. $-.75$ D. cyl. axis $100° = 1$, and that of the left with $-.75$ D. $-.50$ D. cyl. axis $30° = 1$. By the vertical diplopia test a prism of three degrees, base out, is required to place the images in the same vertical plane; the adducting power is eighteen degrees, the abducting power two and one-half degrees; a prism of two degrees can be overcome with its base up or down before either eye. Glasses correcting the refractive error, combined with a one and one half degree prism, base out, before either eye, were prescribed, and have relieved in a great measure the asthenopic symptoms complained of.

The point of special interest in this case, which is evidently one of congenital ophthalmoplegia externa, is, of course, the unusual retraction of the right eye when an attempt is made to rotate the eyes strongly inward. As to the cause of this retraction, it is probably brought about by the combined and simultaneous action of the superior and inferior recti muscles in attempting to supplement the defective internus. As is well known, these two muscles acting together tend to rotate the eye inward and also to draw it backward into the orbit; and although under normal conditions the internal rectus requires little or no assistance in converging, it is easy to understand, with the existing conditions in this case, that the added converging power will be of much value in enabling the patient to maintain binocular vision for near work. If the left internus were as defective as the right, the assistance given by these muscles would probably not be sufficient to accomplish the amount of convergence necessary, and the patient would soon learn to suppress one image; but with the vision about equal in the two eyes, and binocular vision for distance being maintained with but little effort, it is only natural that binocular vision should be attempted for the near and obtained in the manner suggested. At the reading distance the muscular power required in converging is not great enough to produce any very noticeable sinking of the globe, but an attempt to fix objects at twenty centimetres results in a marked retraction, and the degree increases as the distance of the object is decreased.

The amount of resistance offered by the post-ocular tissues in this case, when pressure backward is made on the surface of the eye, is of interest in connection with the degree of retraction, and, as would naturally be expected, is found to be considerably less than normal. This may, of course, be accounted for by supposing a congenital want of development of the fatty and connective tissues; but another idea suggests itself, namely, that the frequent and long-continued pressure made by the globe has resulted in their partial atrophy and absorption. If the latter supposition is correct, a still greater degree of retraction may be found after a number of years than exists at the present time.

[1] Case shown at the meeting of the New England Ophthalmological Society, April 2, 1891.

A CASE OF RETAINED PLACENTA TWENTY-TWO DAYS AFTER A MISCARRIAGE OF A FOUR-MONTHS' FŒTUS.

By J. J. LAMADRID, M.D.,

BROOKLYN, N. Y.

THE following case is reported in the belief that it is rare and interesting, the writer having never read of or seen one like it in an experience of twenty years' active practice:

Mrs. A. H——, aged twenty-eight, healthy, and the mother of two living children, considered herself pregnant in the fourth month. On the afternoon of September 3, 1891, she felt a sudden rush of water coming from the vagina, but as she had no pains and did not notice any blood passing from her, she did not feel alarmed about it, nor thought it necessary to have the advice of a physician. Four days later, however, I was sent for in haste, about one o'clock in the morning, the woman's husband stating that he thought his wife was going to have a miscarriage. When I arrived at the house I found, on examination, a four-months' fœtus lying close to the vulva, the mother stating that she had felt something come away, but that she had had no pains and no discharge of any kind. Wishing to verify this fact myself I now inquired particularly if she had suffered any pains at all, or had lost any blood. In answer to this inquiry she said: "Why, doctor, I do not know what to think of this myself, for I can assure you I have not experienced any pains, except a heavy feeling around my back, such as I feel whenever I am about to be unwell, nor have I lost or passed any blood." I then proceeded to investigate the condition of the womb by placing my left hand over the hypogastric region and introducing my right index-finger into the vagina for the purpose of removing the placenta and any clots of blood I might find within. I found the os uteri high up and almost closed, that is, I could hardly get my index-finger into its cavity beyond the first joint. Under the circumstances, I prescribed small doses of ergotole (gtt. v.) every hour at first until six doses were taken, after that every two hours, also quinine, in hopes of exciting uterine contractions which

would expel the placenta. The following day another examination with the finger was made, but there seemed to be no perceptible change; there were no pains and no discharges of any kind. I advised her to continue the same treatment, and the use of vaginal injections of carbolized warm water. The patient was kept under close observation for a week, during which period she was examined from time to time, to see if there was any smell or lochial discharges, but none was detected. After the tenth day the patient was allowed to get up and walk around. At the same time my visits were discontinued, and I left instructions that I should be sent for if she felt any pains or noticed any dirty discharge. Since then the patient has been able to go out and attend to her home duties. On the morning of September 29th I received a telephone message urging me to come to the house at once. When I arrived there I found the patient was all dressed and walking around. She now showed me a vessel containing some dark, clotted blood and the entire placenta, free from any unpleasant odor. On a closer examination I found this in an advanced state of fatty degeneration. She had no pains, but a peculiar sensation that something wanted to come away, which it did as soon as she sat on a vessel. Another peculiarity of this case is the appearance of the milk three days after the placenta came away, instead of, and at the time the fœtus came away. Since then the patient has continued doing well, and is now enjoying good health.

I have no comments to make on this remarkable case, except to suggest the following hypothesis: Did the fatty degenerated condition of the placenta have anything to do with the absence of pain and loss of blood?

412 Greene Avenue.

A REMARKABLE CASE OF GUNSHOT WOUND IN EACH EAR, WITH RECOVERY.

By L. TIBBETS, M.D.,

Rockford, Ill.

The history of this case is one of attempted suicide, and is of special interest, as showing the tolerance of the parts, and the failure of an attempt at self-destruction by shooting directly in each ear with a 41-calibre Derringer pistol.

I was summoned on July 10, 1890, at 4.30 P.M., to see A. W. W——, aged about f rty; weight, one hundred and ninety pounds; height, six feet, who had shot himself at the Police Headquarters with suicidal intent. I arrived within eight minutes from the time of shooting, and found the patient, as he fell, lying on his face, apparently dead, with blood flowing from his ears. The finger could be introduced into each ear for about two inches. On rolling the patient over, blood was seen to be flowing also from his nose and mouth. His eyes were rolled up and open, the respiration was feeble, and the heart's action rapid and weak. On introducing my finger in the ears I could distinctly feel the rough edges of bone in the track of the ball. The left auditory canal was badly lacerated, and a portion of the tissues surrounding the meatus was protruding, resembling the point of exit of a ball. He vomited blood freely, and after half an hour resisted, unconsciously, any efforts to relieve him, throwing himself around violently and moaning, indicative of severe pain. I administered an hypodermic injection of morphine ¼ grain, which quieted him for one hour, and when the same symptoms reappeared the morphine was repeated. I syringed out the ears with a two per cent. solution of carbolic acid. He rested quietly until 8 P.M., when he was placed in the patrol wagon and taken to his home. After arriving the hypodermic was repeated, as he appeared to be suffering considerable pain. Cold cloths, wrung out of two per cent. solution of carbolic acid, were also applied, and changed frequently during the night. At about midnight he muttered a few words, but was apparently unconscious of what he said. When he tried to drink water he could not, the water returning through the nose. He could open his mouth only half an inch. The following morning Dr. D. S. Clark, of this city, called with me. We probed the wounds with a Nélaton probe, but did not detect any evidence of the balls. The probe was inserted about two inches in each ear. Iodoform was dusted in the ears, and the cold applications to the surfaces were continued for two weeks. There was very little swelling or inflammation; the temperature registered 99° F. most of the time. He continued raising blood by hawking, and complained of severe pains over the right side of the thorax, below the right nipple, and also on the right side of larynx. About the seventh day copious sanguino-purulent discharge came from the posterior nares and vault of the pharynx, which was cleansed with a twenty-five per cent. solution of peroxide of hydrogen. All efforts at swallowing resulted as from the first. Only fluids could be taken, and they would run out of the nose, only a portion being swallowed. The man also complained of severe pains in the posterior nares, and had difficulty in speech as he could not use the lower jaw. These conditions led me to think that the ball had deflected downward and lodged near this part. I made a number of examinations in the wounds of entrance for the balls, but without any success until the 26th, when I found unmistakable evidence of their location in each ear, about two inches from the meatus, in the course of the auditory canal, upward and forward. I introduced an ear speculum, and with the aid of head-mirror and a reflected light could see distinctly each bullet; the roughened edges of bone were leaded from the balls in their transit. I improvised an iron drill, one-eighth inch in diameter, with a ring on the other end, to bore into one of the balls to attempt its extraction. I succeeded in boring a hole longitudinally, and then, with an iron screw, secured it firmly in the ball; but with the force employed the threads of the screw cut out the lead and pulled out. I then used a larger one, with the same results. After drilling the hole the patient said he could hear better, as he had been quite deaf. I poured in a few drops of twenty-five per cent. solution of peroxide of hydrogen, which passed through the Eustachian tube into his mouth, as evidenced by the frothy expectoration. His hearing was very materially improved, and he said he heard the crackling of the peroxide; the pressure, or "stuffy feeling," as he described it, was relieved. All efforts to remove the balls proved useless, and as they were impacted in the bones, and partially flattened, I concluded any further efforts would do more damage than allowing them to remain. The wounds were healing in a healthy manner, and the auditory canal drained the parts. The right eye could not be closed fully, and even when he was asleep it remained partially open. The muscles of right side of the face were also paralyzed. Consciousness partly returned on the second day, but the man could not talk coherently. The first evidence of rationality was on the third day, when he would repeat, "Is this all a dream?" After he was able to walk around, which was three weeks from the date of the shooting, his gait was normal. Sleep was normal most of the time, and he did not complain of dizziness. The discharge from the ears had nearly ceased by September 15th. He gave me his history of the shooting. He said he took two 41-calibre Derringer pistols, put one in his left hip-pocket, the other he carried in his right hand, and went up to the police court-room. As he entered the door he placed the muzzle of the pistol in his right ear and fired; he remembered that he went down on his knees, and then, to make sure, he reached around to his left hip-pocket, took the other pistol, put it in his left ear and fired. Then all was a blank for a while, how long he could not tell. He disappeared about September 15th; but I heard from him, indirectly, over one year later, to the effect that he was engaged in driving a hack, and did not suffer from any disability, except the inconvenience of partial loss of hearing.

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THE CUBAN MEDICAL CONGRESS.

THE Second Medical Congress of the island of Cuba will be held in Havana in January, 1892. under the presidency of Dr. Juan Santos Fernández. The proposal to hold a congress of Cuban physicians was made by Dr. Enrique Lopez at a meeting of the Society for Clinical Studies in Havana, on September 6, 1888. The idea met with a favorable reception, committees were formed, plans were discussed, rules drawn up, and a date set for the first congress. This was opened on January 15, 1890, in the hall of the Royal Academy of Sciences of Havana, by Dr. Tamayo, President of the Society for Clinical Studies. The attendance was large, a rather formidable number of papers was presented, but they were of no mean order of merit, the enthusiasm was great, and the congress was unanimously pronounced a success.

We congratulate our colleagues in Cuba on the formation of this association and we wish it every success, and we do so actuated not only by a feeling of good-will, but by the direct personal interest that everyone in this country has in the results of its deliberations. Science, indeed, has much to gain therefrom in the better knowledge concerning tropical diseases, which will doubtless spring from the discussions taking place before this association; and as physicians we shall look forward with much interest to the publication of the volume of "Transactions" of this Second Congress. But apart from this, the members of the Cuban society have a duty to perform, in the fulfilment of which they will confer a direct benefit upon every inhabitant of the Eastern and Southern United States.

Nearly every summer the people in these regions are threatened with yellow fever, and occasionally suffer from more or less wide-spread epidemics of the dread disease. The germs may now and then be brought in ships coming from the Spanish Main, from islands of the West Indies, or even from Brazil; but in a large proportion of cases Havana is the starting-point of our epidemics. There the disease is endemic, and hence it spreads to other points whenever the conditions become favorable. It is the nearest tropical port of consequence to our shores, and communication between it and our own ports is constant. Four lines of steamers, at least, make regular and frequent trips between Cuba and the United States, to say nothing of the numerous sailing vessels and occasional tramps passing between the two countries.

During the First Cuban Medical Congress there were six papers on yellow fever presented out of a total of about eighty. So we see the subject is one that interests the physicians of Havana; and the formation of such a congress as this will doubtless stimulate them to further study of the disease in all its aspects, of the means best suited for its prevention and extinction, as well as its treatment. And then we, as well as they, shall reap the benefit.

ANOTHER CIGARETTE FIEND.

THE small boy, the broker's clerk, and the young doctor are no longer to enjoy a monopoly of cigarette-smoking, if a recent press despatch concerning a discovery of Dr. Ohmann-Dumesnil, of St. Louis, be correct. It seems that he was led to investigate the cause of holes occasionally seen in cigarettes, and found that they were caused by an insect. According to the account given, this little bug, one of the numerous family of coleoptera, watches his opportunity when the cigarette box has been carelessly left open, flies in, bores a hole in the paper wrapper of the cigarette, lays an egg carefully in the tobacco, and then departs when the lid of the box is again raised. If the cigarette is not consumed very soon, this egg develops into a worm which feeds upon the tobacco surrounding it, and thrives thereon—unlike the small boy.

The report continues:

"What do you think of a cigarette that has entertained one of these bugs, doctor?"

"I consider such a cigarette a poison, and I attribute many mysterious cases of bronchial affection to this source."

This may be sad news to the cigarette smoker, or it may be that he will not care whether bugs are there or not. So let the worm have its perfect work.

THE TIN-PLATE IN SURGERY.

THE intense but somewhat artificial excitement over the tin-plate industry which political journals have worked up, has, we presume, not much affected the medical mind. We do not care to have it do so; and yet, according to Dr. Elizabeth Reifsnyder, of Shanghai, China, the tin-plate meets a long-felt need in medicine, and is destined to be the treatment of the future for ulcers of the leg. As there are over three hundred millions of people in China, and as China, we are told, abounds in leg ulcers, the future of the tin-plate industry presents a very stimulating picture to the imagination.

The good news about tin-plate did not start from Shanghai, however, but from the equally interesting town of Philadelphia. Dr. E. R. Moras showed its value nearly a year ago, while Dr. Reifsnyder has been trying it on the Chinese for four months.

There are six treatments for ulcers of the leg, according to Dr. Moras: The moist treatment with ointments, washes, etc.; the dry treatment with powders; rest and compression with bandages; skin-grafting; transplantation of a flap; the tin-plate.

The technique of this last measure is as follows: The surgeon must have bichloride of mercury solution, 1 to 1,000, oiled silk or rubber tissue protective, common sheet-tin, adhesive plaster, dressing material, and bandages.

The ulcer and surrounding tissues are cleansed with bichloride solution, then the ulcer is covered with a piece of protective that has been soaked in the same solution. Not only is the ulcer covered, but the protective is cut one-third of an inch larger than the ulcer. The tin is a trifle smaller than the protective, so that it does not touch the skin. Tin also has been soaked in the bichloride solution for a few minutes. With one or two strips of adhesive plaster the plate is firmly fastened, a few layers of gauze over the plate and surrounding tissues, and all held in place by a roller bandage. The plate must be adjusted with uniform pressure.

Impress upon the patient's mind that the plate is not to be removed. The outer dressings have been removed and paper has been substituted for gauze, and the healing process still gone on. Dr. Reifsnyder adds that after giving the tin-plate treatment a trial of over four months, "we have found that the ordinary chronic leg-ulcer heals in from six weeks to two months. The patients suffer no inconvenience or discomfort while wearing the plate, and in most cases are far more comfortable than they were before its application."

THE NEW FREE BATHS.

THE inauguration of this most practical charity, reference to which was made in our news columns some weeks ago, may be regarded as the occasion for much congratulation on the part of those who have made a study of the social conditions in this great city. One obstacle in helping the poorer classes is the false pride which the latter have, and which makes them rather resent the acceptance of any charity unless the latter is veiled under some other name. Already a complaint has been published in one of the daily papers by a resident of the down-town district where the baths are in operation. He tells the managers of the society that they have the words "Society for Improving the Condition of the Poor" entirely too prominently displayed in their new building. They have put their own price on the baths. If a person pays it, why should he be considered as poor?

This is, of course, very silly reasoning, but it represents an element of character among the classes for whom efforts are being made which must be taken into account by all charitably disposed persons. It is confined, happily, to the minority. The greater mass of the people for whom the baths are designed have evidenced their appreciation by a most liberal patronage. It is not unlikely that this will greatly increase, now that the cooler weather has come and the city baths have been closed. During the first two weeks of the existence of the baths at the Demilt Dispensary, over one hundred and fifty availed themselves of the privilege of the three days devoted to men. On the days devoted to women the attendance has been almost nil, though of course a woman has been in attendance at those times. There seems to be no reason why women should not patronize the house-baths as frequently as they do the city-baths during the summer.

The baths at the Demilt Dispensary are at present six or eight in number, and if experience warrants, the whole basement of the building will be given up to that purpose. The patron can have a shower or tub bath, as he may prefer, with either hot or cold water. The rooms are divided into two parts by a partial partition. In the outer space the clothing can be left, while the bath is taken in the inner. The fittings are of polished marble, and it goes without saying that the plumbing is first-class.

Anything which leads a man to take two baths where he only took one before, may confidently be regarded as a great benefit to him. The new departure has had no opposition, but only lethargy, to contend with, and as soon as its benefits become more widely known we may hope for ample and satisfactory results.

LATIN IN PRESCRIPTIONS.

THERE occur periodically attempts to induce medical men to write prescriptions in the vernacular. Several legislatures have even been appealed to, and laws have been framed for the abolition of Latin. The arguments for this are generally that the latinity of modern prescriptions is very bad, that the practice is simply the survival of an ancient and useless custom, and that it is pedantic and useless, and conceals from the patient things that he ought to know. We regard it as fortunate that the good sense of the profession has not been imposed upon by these specious arguments. The reasons for using Latin in prescriptions are sound and practical. The chief one is, that it is of the greatest importance to have drugs given names which will not be changed with fashion or locality, and which will be understood all over the world. In a recent article upon this subject Professor Joseph P. Remington (*Journal of the American Medical Association*, October 21, 1891) has given a long list of plants whose English names indicate three or four different substances. Thus to illustrate:

Lungwort may be either Pulmonaria officinalis or Variolaria faginica.

Masterwort may be either Angelica atropurpureus or Imperetoria ostruthium.

Matico may be either Piper angustifolium or Artanthe elongata.

Milkweed may be either Asclepias tuberosa, Apocynum androsæmifolium, or Euphorbia corollata.

Monkshood may be either Aconitum napellus or Leontodon taraxacum.

Partridge berry may be either Gaultheria procumbens or Momordica balsamina.

Pellitory may be either Anacyclus pyrethrum or Xanthoxylum fraxineum.

Prickly ash may be either Xanthoxylum fraxineum or Aralia spinosa.

Rattle root may be either Macrotys racemosa, or Cimicifuga racemosa, or Cicuta virosa.

Rattlesnake root may be either Goodyara pubescens, Nabulus alba, Cimicifuga racemosa, or Polygala senega.

Snake root may be either Cimicifuga racemosa, Aristolochia serpentaria, Eryngium aquaticum, Liatris spicata, Asarum canadensis, Polygala senega, or Eupatorium aromaticum.

Spice berry may be either Gaultheria procumbens or Laurus benzoin.

But besides this, it would add immensely to the difficulties of practical therapeutics, if in the literature of foreign languages the vernacular was used to designate

the drugs employed. Such difficulty is indeed experienced to some extent already with the French, whose prescriptions are often unintelligible to any but Frenchmen.

There is no doubt a need of reform in the latinity of modern prescription-writing, but the abolition of the use of this language would be a misfortune.

MEDICAL JOURNALS IN THE WEST.

We have a great respect for the journalistic skill and enlightened literary intelligence of our Western colleagues; but it appears as if the medical journal industry among them was being slightly overdone. There is no ethical objection to every doctor publishing his own medical monthly; and that seems to be the tendency over a large and cereally rich area of which St. Louis is perhaps the centre. But while there is nothing unethical in the multiplication of medical monthlies, it sometimes appears as if there was a malicial disadvantage to the profession in general. For it is confusing, expensive, and time-consuming to go over them all and extract the rich kernels from the sometimes rather thickly-investing shell. Besides, one cannot but think of the brilliant journalistic effect that would result if the rich material, now so widely distributed, were combined in one solid and successful periodical. The medical journalism of the Great Lakes and the Mississippi Valley contains the promise and potency of great things, but the realization will be deferred as long as with every moon a new journal comes. Not but that we believe in local journals; they are indispensable in promoting medical co-operation, stimulating literary activity, and diffusing practical knowledge. But there may be journalistic superfetation, and we fear that the South and West are becoming affected therewith.

THE THERAPEUTIC VALUE OF A GOOD SHAKING.

An esteemed colleague on the other side of the water had been suffering for several weeks from a most obstinate attack of catarrhal jaundice, which resisted every form of medication that he or his friends could think of or found recommended in the text-books and therapeutic manuals. In the midst of his distress, and when he had about abandoned all hope of ever again eating a square meal with relish, or having a normally colored alvine evacuation, he found himself obliged to undertake a journey of some length by rail. He did not want to go, but duty called him, so he obeyed. Soon after arriving at his destination in the evening he had an attack of colic, which was succeeded by a sensation as if a syringeful of warm water had been discharged from the region of the gall-bladder into the stomach. The sensation was a novel one, and while pondering upon its significance he fell into a deep and dreamless slumber, from which he did not awaken until the following morning. Upon rising he found, to his joy, that he was hungry, and ate a good breakfast with better appetite than he had had for over five weeks. The meal was followed by a very satisfactory stool, in which was seen a considerable quantity of bile. From that time his recovery was rapid. The cure was attributed to the dislodgement of a plug of mucus from the bile-duct in consequence of the shaking-up on the railroad, for it must be remembered that among the effete nations of Europe vestibule trains are not, and the rails are often laid in such a fashion as to cause the greatest possible jolting. But this discomfort was a blessing in disguise to our suffering *confrère*, and so pleased was he with the results that he urges all who may be afflicted as he was to take a railroad ride, or if unable to do that, to drive in a springless wagon over a corduroy road. To those who may be so situated that they can do neither he recommends a self-inflicted shaking by jumping up as high as possible and coming down on the heels. He has succeeded in curing two cases by this simple measure, and regards it as far more efficacious than the most complicated drug treatment. The school-boy has long experienced the application of shaking as a remedy in the moral order, and now he will learn that it also relieves him of bile—pure, material, bitter bile. Thus the world moves, and the god of healing smiles approvingly upon the upward strivings of his devotees.

A NATIONAL PENSION FUND FOR NURSES.

At a meeting held in this city last week, an organization for securing pensions for nurses was successfully established. Through the liberality of Mr. J. Pierrepont Morgan and Mr. D. O. Mills, the sum of $100,000 was subscribed. The objects of the work are briefly these:

1. By the payment of a stipulated sum per month the nurse becomes entitled to a specified annuity, to begin at a stipulated age.

2. In case of sickness she is further entitled to a certain weekly amount as "sick pay."

3. In case of absolute necessity, compelling her to discontinue her monthly payments, she does not lose what she has paid, but may withdraw it with interest at a certain moderate rate. This interest is added yearly to the total amount of her payments, and so she receives compound interest on her whole savings, whenever withdrawn.

4. In case of her death, the amount of her savings, with compound interest at the stipulated rate, is paid to any person whom she may have designated to receive it.

Thus, we are told, the pension fund answers, within certain limits, the purpose of an annuity insurance, a sick-pay insurance, a savings bank, and a life insurance; all at the most moderate rate, since the expenses of the business are provided for; and with ample security of permanence and solidity, since there is capital behind it, and the investments are made by gentlemen of eminent financial ability whose services are given gratuitously to the work of the fund.

The pension fund is evidently a highly desirable kind of a Benefit Society to which philanthropists as well as the nurses contribute. We congratulate the nurses on the fact that energetic and benevolent gentlemen are willing to do so much for them, apparently unasked. For, curiously enough, the nurses themselves do not seem to figure at all in the proceedings for organization. Doubtless this seemed hardly necessary.

We are curious to know if there will soon be started a pension fund for some other deserving class of workers. Medical men would, we have no doubt, labor more cheerfully and happily if they knew that there was a fund on which they could draw in their old age.

News of the Week.

Health-resorts Along the Riviera. — Dr. Edmund Charles Wendt, of this city, who sailed on Thursday on the Fürst Bismarck, is commissioned by the MEDICAL RECORD to devote the coming winter season to an exhaustive study of the climatic and sanitary conditions of the health-resorts along the Riviera. Dr. Wendt will also visit Florence for the purpose of ascertaining the causes that led to the recent outbreak of typhoid fever in that city. He will likewise report on the sanitary condition of the other Italian cities frequented by American tourists. The preliminary organization of the International Medical Congress, to convene at Rome, will also receive his attention.

Reception to Professor N. Senn, of Chicago.—Dr. B. A. Watson gave a reception at his residence, in Jersey city, to Nicholas Senn, M.D., Ph.D., Professor of Surgery, Rush Medical College, Chicago, on Thursday evening, October 29, 1891. A large number of representative medical gentlemen from Jersey City and elsewhere were present.

A New Use for Tuberculin.—The Board of Health in Philadelphia has, according to the New York *Times*, begun an inquiry concerning the sale of the milk of consumptive cows in that city. It appears that this action was suggested by the report of the investigation made by a committee which was instructed, by the Veterinary Department of the University of Pennsylvania, to test the value of Koch's tuberculin by experiments in which cows should be the subjects. The committee began its work last spring, and its conclusions are that, while the tuberculin has no value as a curative agent, it is very useful as an agent for revealing the presence of tuberculous disease. It is difficult to detect tuberculosis in cows in the early stages of the malady, and as it is of great importance that the actual condition of diseased milch-cows should be known, the tuberculin may possibly be of great service to the human race, even if the condition of consumptives cannot be improved by the direct application of it. The committee was led by the result of its experiments to publish a most emphatic warning against the sale of the milk and flesh of tuberculous animals, and this has directed the attention of the Board of Health to the milk-supply.

Chlorine Water and Quinine in Typhoid Fever.—Dr. Burney Yeo recommends as the best antiseptic in typhoid chlorine water with quinine. It is made by putting thirty grains of powdered chlorate of potash into a twelve-ounce bottle, with forty minims of strong hydrochloric acid, the bottle is to be corked, the gas allowed to generate, then water is to be poured in little by little and well shaken with the gas, and finally twenty-four or thirty six grains of quinine and an ounce of syrup of orange-peel are to be added; of this mixture an ounce is to be given every two, three, or four hours. In the early stage, first week, one or two full doses of calomel, five to ten grains, are recommended, especially if there is constipation.

Bromol, which was introduced into therapeutics by Dr. Rademaker, is a chemical compound, tribromophenol and is obtained as a white flocculent and gradually crystallizing sediment when bromine water is added to an aqueous solution of carbolic acid. Pure tribromophenol occurs as a white crystalline substance which melts at a temperature of 203° F., and is nearly insoluble in water, but readily so in alcohol, ether, chloroform, glycerine, and in fatty and ethereal oils; the odor is disagreeable, like that of bromine, the taste is sweet and astringent. According to some experiments previously published by Grimm, the antiseptic virtues of bromol would seem to rival those of carbolic acid. When it is applied to recent wounds it causes a sensation of burning and has a caustic action; it stimulates atonic granulations, and produces a favorable effect on tuberculous processes. In gangrene it acts as a powerful disinfectant, and accelerates the separation of dead matter. Dr. Grimm applied it to wounds either in a pure state or mixed with some indifferent powder, and as an ointment. He also employed it to impregnate bandages. He considered it inapplicable to the mucous membrane of the mouth, nose, and pharynx on account of its caustic properties. Dr. Rademaker uses bromol either in substance or in solution of olive-oil of the strength of 1 in 30, or as an ointment of the strength of 1 in 10. In diphtheria he brushes the membrane with a glycerine solution of the strength of 1 in 25. As tribromophenol remains undissolved by the gastric juice and is only slowly acted upon during its passage through the intestinal canal, Dr. Grimm made use of it as a disinfectant of the bowel, giving in doses of from three to seven and a half grains per diem. Dr. Rademaker also has administered it in cholera infantum in doses of from five to fifteen milligrammes, and has prescribed it in typhoid fever. It is secreted by the kidneys in the form of tribromophenol-sulphonic acid.—*The Lancet.*

The Tri-State Medical Association of Tennessee, Arkansas, and Mississippi will convene in the city of Memphis on November 19th and 20th.

The Arkansas and Missouri Association of Railway Surgeons held its second session at Newport, Ark., on the 27th ult.

A Bogus Diploma Mill is said to exist in Montreal, Canada. The diplomas purport to be issued from the University of Victoria.

The Vis Medicatrix is a new bi-monthly journal of medicine, and is the organ of the Iowa State Medical Society. It is edited by Dr. Woods Hutchinson, of Des Moines.

Laparotomy for Intestinal Perforation in Typhoid Fever has been performed twelve times, with but one success. Dr. Da Costa, in a discussion on this subject, said, as a result of his experience in two cases, he would never sanction the operation unless a causal appendicitis could be made out, or unless for the relief of peritonitis.

A Pasteur Institute in Cochin China.—A Pasteur Institute was opened at Saigon, on June 1, under the auspices of the French Government. Though primarily intended for the practice of anti-rabic inoculation, the work of the institute will extend over the whole field of micro-biology.

A Suit for $20,000 was recently brought against a prominent physician of this city, by Dr. Gould, for al-

leged slanderous statements. These statements prevented him, he asserted, from becoming a member of the New York Academy of Medicine. A verdict was promptly given in favor of the defendant. Such suits show, perhaps, the high pecuniary value attached to membership in the Academy, but they are disquieting to the Committee on Admissions.

The Influenza is said to have reappeared in Vienna, Bucharest, and Berlin, and also to be prevailing in Russia.

Woman's Medical College of St. Louis.—This institution was first named the Rachel College of Obstetrics and Nursing, and its scope of operations was fairly outlined by that name; but since getting the movement well under way it has been decided to make a woman's medical college out of it.

The Cost of Births, Marriages, and Deaths.—Someone estimates that getting born costs the people of the United States $250,000,000 annually; getting married, $300,000,000, and getting buried, $75,000,000. To the economical mind these figures will at once suggest the most advantageous course of conduct.

Medicine at the World's Fair.—We are informed that the Medical Director of the World's Fair is Dr. John E. Owen, and that he has promised that women shall receive official recognition upon the medical staff. The number to be appointed has not yet been announced, but assurance has been given that women physicians will rank with men and share the duties of the exhibition hospital. The profession will look forward with interest to Dr. Owen's Exhibition Hospital, with its exhibition staff of male and female doctors. According to the reports of the last Exposition at Paris they may expect about 732 cases of hysterics, 197 syncopes, 11 deaths, and 3 births. This will be enough to make the hospital interesting as an exhibition.

A So-Called Double-Headed Boy has been on exhibition in this city and has been examined by medical men. The boy is a fine, bright, well-developed youth of eighteen years, and attached to the extremity of his sternum is the incomplete figure of a twin. The arms are given out, without scapulæ, from the sternum of the young man. The trunk is short and incomplete, but it terminates in a pelvis with which the legs are connected. There would seem to be no separate heart in the parasite, and the pulse, both radial and axillary, is synchronous with that of the autosite. There is anchylosis of the joints in the undeveloped child. The young man is conscious of a sensation when this second body is roughly touched. It is said to be the opinion of competent surgeons who have examined the boy that the parasitic growth could be removed without serious injury to him.

Artificial Cornea.—The *Berlin. Klin. Wochenschrift* publishes a seventh case of transplantation of cornea by Professor V. Hippel, of Konigsberg. There was a dark-brown central decoloration of the cornea, three millimetres in diameter, and reaching down to the membrane of Descemet, which had been caused by the action of nitrate of silver. Cocaine having been applied, the non-transparent part of the cornea down to the membrane of Descemet was cut into by a little trephine, the crown of which was four millimetres in diameter, and carefully removed. The author then excised by the same means a similar piece from the whole thickness of the cornea in a young rabbit, and transplanted this to the eye of his patient. It filled the wound exactly and was on a level with the rest of the cornea. Iodoform was applied, and both eyes were bandaged. Healing proceeded without any trouble, and in six weeks the patient was discharged with a completely transparent cornea.

The Virchow Medal.—It is said that the medal presented to Professor Virchow, at his recent jubilee, measures 118 millimetres in diameter. and is made from eighteen-carat gold. The front of the medal bears a bust representation of Virchow in relief. The back is adorned with an heraldic design, the allegorical figures of medicine and pathology, microscopes, books, skulls, and an Egyptian mummy.

"**No Slanders of the Medical Profession** are allowed in Vienna," says the London correspondent of *The Lancet*, who adds: "It has been reserved for the dramatic censor of Vienna to show thus publicly the esteem in which he holds medicine and its votaries by declining, for the reasons above mentioned, to allow Mr. Abraham Dreyfus's comedy, entitled 'From 1 to 3 P.M.' (the hours of consultation of most medical practitioners on the Continent), to occupy the stage of the Carl Theatre. The *Temps*, from whose columns I cull the information, alleges that the piece, the *première* of which was announced for the 9th inst., was interdicted because it 'portait atteinte à la considération du corps médical.' The event is sufficiently rare to merit recording in a representative medical journal."

The Frogs and the Surgeons.—It is stated that the surgeons of the New York Hospital some little time since made an unsuccessful attempt at skin-grafting with the skin of frogs in a case of extensive burn. Six dozen of the finest specimens to be had in the market were selected and fed and attended with the greatest care, so as to have them in the best possible condition at the time of the operation. Some thirty grafts about the size of a twenty-five cent piece, taken from the backs of as many well-fattened frogs, were used at one time, and it seemed at first that there was every prospect of success. The final result, however, was a total failure, as the grafts were not possessed of sufficient vitality for the desired purpose. Still, it is an ill wind that blows nobody any good, and for some time the house-staff luxuriated on the choicest frog legs.—*Correspondence of the Journal of the American Medical Association.*

Washington from a St. Louis Point of View.—Of all the cities in the United States, Washington is more "in touch" with unrighteous covetousness and more out of harmony with the object and purposes of a scientific body than any other with which we are acquainted. The water and air were both bad and pregnant with the bacteria which develop those peculiar ptomaïnes that set up a constant and irresistible intestinal commotion. The party in whose company we found so much of genuine Western sociability was scarcely ever intact because of the tribulations entailed by this state of affairs.—*Weekly Medical Review.*

Society Reports.

NEW YORK STATE MEDICAL ASSOCIATION.

Eighth Annual Meeting, held at the Mott Memorial Hall, New York, October 28, 29, and 30, 1891.

STEPHEN SMITH, M.D., PRESIDENT IN THE CHAIR.

FIRST DAY, WEDNESDAY, OCTOBER 28TH.

THE meeting was called to order by the President, DR. STEPHEN SMITH, at 8.45 A.M.

Suggestions Made by the Committee of Arrangements.—DR. JOHN G. TRUAX read the report of the Committee of Arrangements, which, he said, would refer to some matters not mentioned in the programme. First and most important was the forming of an association in each county which should be in sympathy with the State Association. Membership in one county association should carry membership in others. Next, it was suggested that each member post his Assemblyman and Senator on medical matters which were likely to come before them at Albany. He thought the statute prohibiting a medical man being president of the Board of Health in New York City was an insult to the medical profession and a curse to the people.

Report of the Council.—DR. E. D. FERGUSON read the report. The total disbursements during the year had been $2,248. Balance in the General Funds, $1,085. Balance of the Library and Building Fund, $2.482. Total funds in the treasury, $3.567. The total number of volumes in the liorary was 8,921.

Changes in the Constitution and By-Laws.—The Amendments to the Constitution and By-laws recommended by the Council were all adopted.

The Art of Teaching Medicine.—DR. SMITH chose this subject for his address (see p. 564).

The Use of Chloroform in Labor.—DR. ELBERT T. RULISON, in a brief paper, advocated the use of chloroform in all cases of labor in which there was no contra-indication. He spoke of the objection, interfering with the laws of nature, as an old woman's objection, and expressed surprise that physicians to-day allowed their patients to suffer to the end of the labor. Clumsy methods of administration, as by a towel, etc., would account largely for the negative stand taken by many physicians. By the proper use of chloroform the following results would be obtained: 1, no pain, hence no nervous shock; 2, it reduces the number of perineal tears; 3, it shortens the labor, and hence greatly relieves the attendants; 4, child-birth being relieved of its pains, there would be less temptation to criminal abortion. The author praised Battershall's inhaler.

DR. O. C. LUDLOW remarked that some physicians used chloroform in all labor cases, others in none, and both went to extremes. The only ill-result which he had observed was a greater amount of oozing after labor and greater tendency to alternate contraction and relaxation of the uterus, making it necessary that the attendant keep his hand longer on the organ in order to secure permanent contraction. A convenient method was to put the chloroform on cotton in a glass.

Words of Caution.—DR. TOWNSEND said he had occasion to use anæsthetics a great deal during the war and since, and he strongly deprecated the general use of chloroform or of any other anæsthetic during labor. Evident, as well as possible unknown, dangers attended such a practice. Among those dangers was post partum hemorrhage. As to inhalers, they produced asphyxia, which meant death if carried far enough. The only safe method was by admitting air. He used a towel for giving both chloroform and ether. It should not touch the face.

DR. MURRAY would not use an anæsthetic in all cases. He used an inhaler, but thought air should be admitted.

DR. DOUGLAS would not have the anæsthesia carried farther than just to relieve pain, believing thereby he would avoid much of the danger.

Forced Respiration—Continued Observations.—DR. GEORGE E. FELL referred to papers which he had read on this subject before, his work having begun four years ago. He had saved eight lives by his method of forced respiration, and others had been more recently saved by physicians in Columbus and elsewhere. Two of his last three had been saved with the use of the face-mask, one with the mask and tracheotomy combined. The author devoted a considerable part of his paper to the question of priority. He claimed that his own was the first systematic work in the line of forced respiration for the saving of life in asphyxia. Professor Wood and some others had suggested certain methods which the author showed would prove impracticable. It should be a great satisfaction to any man to know that a method which he had suggested had been the means of saving a number of lives which must have been lost under all methods previously known.

Preventive Medicine.—DR. HENRY C. VAN ZANDT treated of this subject in a general way, but especially dwelling on the need of educating the public in matters of hygiene and preventive medicine. Might it not be that some of the scourges of the ancients prevailed at present in the form of cholera infantum, etc.? He also suggested that the plagues which afflicted the Egyptians and passed by the Hebrews may have been due to unhygienic and filthy habits and surroundings of the former. The Hebrews, as was evident from the Mosaic laws, had a very good knowledge of preventive medicine

The Theories of Rheumatism.—DR. JOHN SHRADY, in his paper on the above subject, referred to some of the theories which were in vogue among the ancients and which were remarkable for their ingenuity rather than for their rationality. These ancients confined their attention to therapy, as being the most practical side of the question, in view of their knowledge of the conditions of pathology, to say nothing of anatomy, physiology, or the kindred sciences. He maintained that the adherents of the humoral school have at all times held sway, even with the chemical explanations which the subject involved. They stated, roughly but nevertheless truly, that the solution of the problem was to be sought in the blood. Hippocrates and the many followers of the masters contented themselves with the definition that rheumatism was an "acrid defluxion from the brain, contaminating the blood." This view embraced the catarrhal diseases, which Ballonius subsequently specialized into a separate class, and let the awkward term of rheumatism remain as one without any real meaning.

He then touched upon the diet theory and inclined to Dr. Hadden's view, that the meat-consuming individuals and races were, contrary to the popular view, the most exempt from the torment. He took issue with the adherents of the microbic school, claiming that there was no reason why the virus should have a form, as a necessity of its conflict for place. Rather that the law was the one so dominant in natural philosophy, that no two non-homogeneous bodies can occupy the same place at the same time.

Another theory, that rheumatism based upon inflammatory disturbances of nutrition, and which originated venesection measures, once held feeble sway, but yielded its position to the uric acid opinion, which even now might yet be pronounced a dogma. Still, in the present state of our knowledge, this seemed the most reasonable.

Discussion on Acute Diffuse Peritonitis.—DR. ALFRED L. CARROLL read remarks introductory to a discussion of this subject. Five questions were propounded, as follows:

1. What does the normal histology of the peritoneum teach us of its physiological purpose?

2. Do pathological and clinical considerations warrant the separation of cases of acute diffuse peritonitis into different classes, some infective, others not so?

3. What part do micro organisms, or the products of fermentation caused by them, play in the pathogeny of different forms of acute diffuse peritonitis?

4. What are the means of differential diagnosis between various forms of acute diffuse peritonitis, and what the prognosis in each?

5. In what respects are the therapeutic indications in acute diffuse peritonitis modified by the etiological factors? *a.* From wounds, contusions, rupture of bladder or other viscus, or of abscess or aneurism; perforation; intussusception or strangulation; typhlitis; caries of bone; gall-stones; infection in course of lymphangitis. *b.* From fecal impaction; extension from enteritis, hepatitis, or disease of other abdominal viscera; in dysentery or typhoid ulceration without perforation; incidental to paludal or exanthematic fevers, to albuminuria, scurvy, cardiac disease, rheumatism; from exposure to cold and damp; from decomposition of intestinal contents. *c.* In women, from imprudence or exposure during menstruation; extension from pelvic peritonitis, peri-uterine cellulitis, metritis, salpingitis, ovaritis, etc.; from gonorrhœal infection; from abortion; puerperal, extending from metritis, or by septicæmia sequent to abdominal section. *d.* In children, from umbilical phlebitis; intussusception; worms, etc.

After pointing out some of the differences in histological structure between the three serous membranes, peritoneum, pleura, and pericardium, and remarking upon the more elaborate absorbent apparatus present in the latter, he passed to the second question, said that in the vast majority of cases of peritonitis the morbid process began in the sub peritoneal connective tissue of the visceral layer, the virtual continuity of which with the connective tissue stroma of the invested organs, and its lymph-spaces derivative from them, offered facilities for either direct extension of common inflammation or transferrence of septic products, thus affording ground for a distinction between at least two classes of pathic conditions secondary to local visceral disease. But in addition to these there were cases in which the inflammation was excited by mechanical or toxic agents operating immediately upon the peritoneum; others, wherein it arose from lymphangitis or general septicæmia; still others, such as those sometimes called idiopathic, in which the pathogeny was not always discoverable.

Here again the grouping of infective and non-infective was pathologically and clinically manifest. The character of the effusion seemed to depend on the etiological factor more than upon the intensity of the inflammatory process. The plastic form was oftenest seen in peritonitis by extension of aseptic inflammation from subjacent organs, or by "contusion." The exudate might become organized into bands or layers, or its redundant cell elements might degenerate into pus, giving rise in some examples to a secondary infective process, in others remaining laudable, to undergo fatty change and be absorbed, or, losing their liquid part, to be calcified.

The more abundant sero-fibrinous effusions, frequently observed in cases arising from exposure to cold and damp, from fecal impaction, etc., might, under favorable conditions, be rapidly and completely absorbed.

Purulent peritonitis was common from mechanical or chemical irritants, or from putrid infection. In children the proclivity to pus formation in peritonitis was greater than in after life.

Referring to the third question, he said that bacteria might produce a toxic compound; that toxic compounds might also form in the body without the intervention of bacteria, and mentioned the fact that diminished resistance or degradation of the cells facilitated microbial invasion and multiplication. Most of the infective forms of peritonitis were probably caused by the products of bacterial fermentation, and these products might apparently be elaborated by various saprophytic micro-organisms. But there were cases presenting somewhat similar phenomena which were perhaps attributable to endosomatic poisons, generated or accumulated in the disordered tissues.

The author then pointed out some difficulties in the way of diagnosis, and some facts bearing on the prognosis. The latter, he said, was serious in infants in inverse ratio to the age.

The relation of the etiological factors to treatment was then taken up. It was evident the author did not believe in blindly applying the so-called opium treatment to all cases. He said that even in other than surgical cases this "bugbear of peristalsis" was inconsistently dreaded, for when tympanites occurred peristalsis ceased.

Some indications were mentioned for heart tonics, for laxatives, for turpentine stupes and hot fomentations, rectal alimentation, etc.

Non-infective Peritonitis.—Dr. E. D. Furguson read a paper bearing on Questions 2, 4, and 5. While it would be accepted as proved that certain infective agents caused acute diffuse peritonitis, the converse was not so clear—*i.e.*, that acute diffuse peritonitis might arise from non-infective causes, for to prove a negative in this instance would hardly be possible. But while not able to assume with certainty that this affection could arise from non infective sources, still, in the present state of our knowledge of pathology, it seemed probable that it could have such an origin, for the fact that mechanical irritation would produce a variety of the inflammatory process practically settled the question. Clinically cases were found that did not correspond to the usual ideas of an infective peritonitis.

In the case of a child he was consulted with reference to doing laparotomy for the relief of peritonitis. There had been about a day of invalidism. There was some distention of the abdomen, walls tense and board like, abdominal tenderness and pain, fever, etc., but from the rather sluggish condition of the mental faculties, the absence of any probable causes for a diffuse peritonitis of such rapid development, absence of constipation, and presence of regurgitant vomiting of a thin mucus, he ventured the opinion that it was not a case of peritonitis, but that there was a production of poisonous alkaloids going on in the bowels beyond the capacity of the liver to serve as a graveyard for such compounds; that it would result in profound effect on the nerve-centres, a diffuse interstitial and parenchymatous hepatitis, with a resultant increase of pressure in the gastro-intestinal veins, hæmatemesis of the "black vomit" variety, and death. The autopsy verified his diagnosis. He had previously had a similar case. While some cases, like one of perforation of the gut and operation, which he related, at at some portion of or during the entire course simulated diffuse peritonitis, yet autopsy had failed to show it. Nevertheless it seemed probable that the development in the bowels of a toxic agent capable of producing such morbific conditions might, under certain circumstances, allow of the passage of a toxic agent through the coats of the bowel, so as to cause a peritonitis.

Referring to laxatives and opium, he said: When the peritoneum is roughened by inflammation or other cause, peristalsis must cause mechanical irritation, and in addition it would tend to the spreading of irritating products, as pus, etc. In so far as the "opium splint" will lessen this source of irritation it is logical, but if there is ground to conclude that the origin of the irritant is within the bowel, and that constipation would favor either its production or absorption, then a cathartic that will tend to produce efficient evacuations with the minimum mechanical disturbance is indicated.

Dr. Heneage Gibbes, of Detroit, sent a paper on the first question. In the peritoneum, he said, we have a thin, delicate membrane, forming in its ramifications various folds. It possessed a considerable amount of strength and a varying amount of elasticity, according to

the function which the particular parts had to accomplish. The frame-work was composed of white fibrous tissue arranged in bundles, which interlaced and gave it the necessary consistency, and among these bundles were net-works of elastic tissue, which varied in amount according to the elasticity required in the part. On both surfaces of the free peritoneum was a single layer of large flat cells. Among these were longer cells, with more sinuous outlines, which belonged to lymphatic vessels running in the substance of the membrane. Among the covering cells were small openings called stomata, which communicated with the lymphatic vessels. Running through the substance of the membranes were blood vessels and nerves. In adults, membranes were masses of adipose tissue, and in young animals collections of small round cells forming cords around the vessels and small nodules. In some animals other structures were found. Embryologists now seem to consider the epithelium on the peritoneum of connective-tissue origin, yet from certain pathological evidences, the author said, this does not seem probable. Balfour and Hertwig regarded it as of hypoblastic origin. If this view were correct the epithelium might have some secretive function. The lymph passed from the blood-vessels on to the surface of the peritoneum in sufficient quantity to keep it moist and reduce friction to a minimum. This lymph had another important function, which was to nourish a considerable portion of the elements which went to make up a serous membrane. In return it received various excrementitious matters. There were two channels by which the blood was returned to the arteries, the venous, with a special arrangement for replenishing it, and the lymphatics by which the serous portion of the blood was returned to the arteries loaded with the products of cell-metabolism. The peritoneum was capable of exerting its functions under various conditions which deviated greatly from the normal. This was shown by the large amount of foreign noxious material which could be absorbed and removed from the peritoneal cavity without causing any inflammatory action in the membrane. He had injected various fluids into the peritoneal cavity without producing any appreciable effect on the animal. He had also injected fluids containing pure cultivations of various micro-organisms into the cavity without producing any effect, while the same amount of fluid injected into the systemic circulation blocked up several of the capillaries in the glomeruli of the kidneys, causing inflammation and breaking down of small areas of the cortex. It seemed to him the lymph which exuded into the peritoneal cavity had some action on noxious material by which it was deprived of its virulence, provided the quantity introduced were not too large. Material which coagulated like blood would, by blocking the stomata, prevent the absorbent action, and inflammation would take place.

Dr. Victor Vaughn, of Detroit, sent a paper which opened with the remark that, notwithstanding the fact that the bacteriological studies of acute diffuse peritonitis had not been altogether harmonious and conclusive, he would attempt to answer the question concerning the relation of micro-organisms to this disease. He wished, however, to reserve the right to make such modifications of his answer in the future as further researches might demand. Although germs were found abundantly in the various forms of exudate occurring in this disease, no one species or kind was found invariably present. Bearing on this statement he quoted Bumm, Predöhl, Boisleux, Netter, etc. Peritonitis might be induced experimentally in animals with any one of a number of germs, as the staphylococcus pyogenes, bacillus pyocyaneus, and the so-called bacillus peritoniditis (Powlowsky), bacterium coli commune, etc. At least one germ, the bacterium coli commune, which normally grew in the healthy intestine, might induce peritonitis after passing into the peritoneal cavity. This was a point of much practical importance, for it was probably true that actual perforation was not necessary to the passage of this germ through the intestinal walls, that this might occur when the mucous membrane became necrotic from simple inflammation or was destroyed by non-perforating ulceration. While it was true that peritonitis might be experimentally induced by the injection of culture of certain germs into the peritoneal cavity, the success of these experiments was influenced by certain conditions. The more important of these conditions were: 1, the presence in the cavity of chemical irritants; 2, the state of health of the peritoneum. Experimentally an aseptic peritonitis might be induced by chemical irritants.

Dr. Harold C. Ernst, of Boston, discussed the subject of etiology as stated in the first and second questions. Pathological considerations by themselves, or distinct from bacteriological, furnished no trustworthy data upon which to base an opinion, and we must therefore look to the results of experimental work for material upon which to found our conclusions. In doing this it was not possible to consider peritonitis as a process separated by any line except that of locality from similar changes that might go on in other parts of the body, and from this point of view peritonitis must he looked at in the light of the enormous body of facts that had been collected in late years as the result of the newer methods of research. This knowledge taught us several things in regard to acute inflammatory or suppurative lesions that must, for the most part, be taken as proven. Of these the most important appeared to be the final disposition that had been made of the theory of a spontaneous generation. The inquirer could not find sufficient ground for the separation of different clinical forms of peritonitis even into septic and specific, much less for the setting off of a class of cases as aseptic. It certainly seemed as if it were proven that all forms of peritonitis occurring in human beings were due to the activity of bacteria or their products and that all of them were to that extent specific and septic also. This did not deny the possibility of the existence of a process closely resembling a non-suppurative peritonitis and due to the action of some irritant or caustic chemical.

Dr. George E. Fell also discussed the subject of normal histology of the peritoneum. It taught us, in part, that the membrane was provided with a lubricatory function which permitted the various contained organs to move in accordance with their purpose without hindrance, the functions to be carried on without waste.

Dr. John Cronyn endorsed the remarks of Dr. Furguson. Bearing on the question of metastatic inflammation of the peritoneum, he mentioned the case of a young man whom he saw with Dr. Rochester, in whom suddenly there developed severe pain over the abdomen, which Dr. Cronyn believed to be due to the metastatic tuberculosis from the lungs (for the patient had pulmonary changes), while Dr. Rochester thought it a case of indigestion. The patient died after some days, and marked miliary tuberculosis of the peritoneum was found. He recommended the use of three to five grains of quinine when giving opium, as exhancing its beneficial effects.

Restitution in Cases of Small Perforations of the Intestine and Peritoneum.—Dr. Charles A. Leale related a case of pistol shot wound of the abdomen, sustained ten years before the patient's death. There had been evident perforation of the peritoneum and intestine, the ball having entered near the umbilicus and been cut out beneath the skin at the back. Absolute quiet was enforced, the abdominal wound sealed, hot poultice applied over abdomen which relieved pain, non fecal producing food given, and the patient was well within six weeks. The autopsy, ten years later, showed no change except slight diminution in the calibre of a gut where it had been perforated.

Dr. W. H. Flint read a paper, discussing *b* of Question 5. It might be stated as a general principle that the indications in the treatment of diffuse acute peritonitis arising from inflamed neighboring tissues looked, first to controlling the peritoneal inflammation, and second to re-

moving the primary causative conditions. In acute peritonitis from fecal impaction the indications were to first control the inflammation, and then relieve the impaction. Injections and cathartics employed first were liable to do harm. The patient should be kept at rest, opium administered, vomiting checked, warm applications made to the abdomen, the strength sustained, and when the inflammation had been controlled the impaction might be overcome. Where the peritoneal inflammation was due to paludal fevers, control the latter by injections of quinine. Erysipelas claimed energetic local treatment from the beginning. In albuminuria, scurvy, and rheumatism treat the general and local condition at the same time.

Dr. John Shrady confined himself to the discussion of the differential diagnosis, and spoke of the great awe in which the peritoneum was once held. He attributed the recent-day triumphs of abdominal surgery to its greater boldness, which furnished more cases and therefore better statistics. Asepsis, of course, played its part, but perhaps in the optimistic way of giving more confidence. What was not done could not be expected to be followed by results especially beneficial, in other words, it was a reversion to the old maxim, "Nothing venture, nothing have."

Dr. B. A. Watson read a paper bearing chiefly, yet in a general way, on the indications for surgical treatment. In rupture of the bladder an immediate operation was called for. The difficulty of making an exact diagnosis sometimes led the surgeon to hesitate until too late in cases of penetrating wounds, etc. In strangulated hernia great harm had been done by taxis. An attempt should be made to reduce the hernia under ether, the head down, and this failing an operation should be performed. In intestinal obstruction the great difficulty again was in making a prompt diagnosis.

Indications for Treatment of Acute Diffuse Peritonitis in Obstetric and Gynecological Cases.—Dr. George T. Harrison discussed *c*, under Question 5. Referring to prophylaxis, he said menstruating girls should be cautioned to use only aseptic napkins. During labor and abortion great care was called for to avoid sepsis.

One should discriminate between septic and non-infective peritonitis. The first demanded imperatively an operation. The abdominal cavity should be cleansed of all foreign matter, strewed thinly with finely powdered iodoform, and close the abdominal wound. The two forms most difficult to deal with were the septic and gonorrhœal. In the beginning of the peritonitis a laxative sometimes was useful, while later it was liable to do harm. Opium was usually indicated to relieve pain, but often the ice-bag, or coil, applied over the abdomen, had given such relief that opium could be discontinued.

In anæmic cases a flannel should separate the rubber bag containing ice from the abdomen. As to septic peritonitis following laparotomy, he had often seen the abdomen reopened, but the patients always died. It was certainly true that if in the future success was to follow operation in diffuse acute septic peritonitis, early intervention would be imperatively demanded.

Dr. William McCollom quoted a recent paper, which discussed peritonitis from the specialist's or surgeon's stand-point, which ridiculed the view that the disease was ever idiopathic. Dr. McCollom could see no reason why peritonitis might not be idiopathic since pleurisy might be so. He referred to experience in Vermont, where most of the cases followed exposure to wet and cold in previously healthy men. He would class the greater proportion of cases as idiopathic, if it was proper to so speak of cases originating in exposure to cold. His treatment by opium had been much more successful than that of his preceptor, who administered cathartics, and thereby caused his patients to writhe in agony. He quoted the arguments of Alonzo Clark, and of Watson (England), favoring the opium treatment—arguments which, although used over forty years ago, appealed to reason just as forcibly to-day.

Aseptic Plastic Peritonitis.—Dr. Nicholas Senn, of Chicago, thought some confusion had arisen as to the meaning of aseptic plastic peritonitis and infective peritonitis. A plastic process in the peritoneum took place in consequence of traumatic irritation, and should no longer be called an inflammation. Here the process did not tend to spread, it remained localized, was limited. A good illustration was seen in perforations of the stomach. It was entirely different in septic peritonitis, for here the primary cause tended to multiply and spread the disease.

Pressure Ascites.—Dr. Senn also recited a case with formation of large amount of ascitic fluid without apparent cause, resembling a large hydrocele, in which condition there was no adhesion of peritoneal surfaces. This could hardly be called a peritonitis. It was cured, in the one or two cases related, by continued drainage. The explanation offered was relief of pressure.

Dr. H. O. Marcy also related a case of ascites with no apparent cause except that the man drank excessively; was cured by tapping and prolonged drainage. The great majority of cases of peritonitis were, he thought, infective. Cases of tubercular peritonitis operated upon by him had been benefited.

Dr. Strong cited cases and warmly advocated the use of opium in peritonitis. Its success would depend upon the boldness with which it was administered.

Peritonitis in Children.—Dr. J. Lewis Smith read a paper discussing this phase of the subject. Peritonitis, he said, spared no age. It had been seen in the newly born, and even in fœtuses. It was most common in the newly born among the tenement-house class, where there was greatest exposure to sepsis. Sepsis often entered at the umbilicus. He did not doubt peritonitis might, like nephritis, result in children from taking cold. It was often due to extension of disease from neighboring organs. He saw at least one case of intussusception in children yearly, and this, of course, was likely to excite peritonitis.

Some cases of peritonitis in children had arisen from extension of the gonorrhœal process from the vagina, uterus, and tubes, to the peritoneum. Diagnosis and treatment other than surgical also received the author's attention.

Differential Diagnosis.—Dr. E. G. Janeway related some cases illustrating difficulty of diagnosis in peritonitis. There might be in children tenderness all over the abdomen, distention, local pain, temperature, yet have a reflex condition instead of septic peritonitis. Some cases of pleurisy or pneumonia simulate peritonitis. Reflex neuralgias connected with disturbances of the liver, perhaps associated with jaundice, sometimes simulated peritonitis. Biliary colic might be mistaken for peritonitis, fever sometimes being present in these cases Nor could we depend alone on the presence or absence of liver flatness in diagnosticating perforation of the bowel. As to the spleen being the source of irritation in peritonitis, it was difficult to make out the size of that organ during the distention and pain attending peritonitis.

Address on Surgery.—Dr. Nicholas Senn, of Chicago, delivered the address (see p. 557).

Second Day, Thursday, October 29th.

Resolutions on the death of Dr. Abram Du Bois were read by Dr. Hubbard and adopted.

Representation in the American Medical Association.—The following was unanimously adopted:

Whereas, The constitution of the American Medical Association is such that no medical organization in the State of New York is entitled to representation in that body except the New York State Medical Association:

Resolved, That our delegates to the meeting to be held at Detroit, 1892, be instructed to call the attention of the American Medical Association to this fact, and to urge that the Committee of Registration be directed not to

register delegates from the State of New York except they have credentials from the New York State Medical Association.

Resolved, That this Association approves the protest already entered before the Judicial Council of the American Medical Association against the appointment of an officer from the State of New York who is not a member of the New York State Medical Association.

Notes on the Treatment of Tuberculosis.—Dr. Warner, of New York, had recently made a study of tuberculosis in Europe, and had used tuberculin in nine cases at the Charity Hospital, New York. The treatment in most of them was continued two or three months. Of the nine cases, three became worse under treatment; two improved; two improved much; two practically recovered. He thought tuberculin was an agent which early in tuberculosis might retard the progress of the disease, prolong life, and in some instances exert a curative influence. Its action might be aided by inhalations of creosote. The cuspidor should be set aside, and a paper cup substituted which could be burnt.

Dislocation and Fracture of the Vertebræ.—Dr. Charles W. Brown, in a paper on this subject, related a case of dislocation of the vertebræ at the fifth and sixth dorsal, in a man who sustained the injury in a railway accident. Paraplegia resulted. He made use of a pulley in reducing the dislocation, which was accomplished with some difficulty. Improvement took place at once, and the man finally was able to walk with the aid of a cane, but died about eight months later in a hospital in Washington, having certain paralytic symptoms, but only a meagre history could be obtained.

Where fracture took place, one should cut down and remove bone which might necrose or cause pressure, etc.

Dr. Robert Newman related two cases of dislocation. Reduction in the first was accomplished as described by the author, and plaster of Paris applied. No motion was possible in the lower extremities for more than six months, when he directed the splint should be removed and galvanism applied to the spine, positive pole above. Improvement, and soon, practically, complete recovery took place.

Dislocation of the Astragalus.—Dr. Douglas Ayres related the histories of two cases of forward and outward dislocation of the astragalus, with the mode of reduction and result. The histories were preceded by a statement of the comparative rarity of the accident and the difficulty of effecting reduction. The patient was given chloroform, and the operator, sitting between his legs, grasped the instep of the affected limb with the left hand, the heel with the right, and while an assistant held the thigh he made extension, and at the same time endeavored to press the bone forward and inward. By persistent effort he at last engaged the bone under the tibia. Use was made of the foot as a lever. The author did not believe, however, that it was possible to formulate an exact course, applicable to all cases, owing to the various complications which might arise. His patients began to use the limb after some weeks, and went on to full recovery.

Dr. J. W. S. Gouley had seen seven cases of dislocation of the astragalus, the last one in September of this year. The mode of reduction was chiefly by persistent manipulation, very little force being used, chloroform being the anæsthetic. Of the seven, four were reduced, two could not be reduced owing to numerous other complications; in one excision was performed for the same reason.

Dr. E. M. Moore thought that on applying the splint after reduction it was important to place the foot at right angles, one reason being that if anchylosis should take place the foot would be in best position. He had treated two cases, effecting reduction in the last one easier, because relying on manipulation and traction, without the pulley employed in the first instance.

Dr. Senn said it was necessary in complicated cases to carry out most careful after-treatment in order to prevent anchylosis.

Larvæ of Dipteræ in the Human Intestine.—Dr. Homer O. Jewett exhibited larvæ of dipteræ passed with the fæces in two different cases. One case occurred in a man, school-teacher, who had had annoying sensations in the abdomen, and when the larvæ were passed had an itching sensation at the anus which caused him to examine the evacuation and then found the larvæ. His habits were cleanly, the water-supply was from a driven well. The other case occurred, about the same time, in a girl, living some miles distant from the first patient. They were strangers to each other; there could be no collusion between them. The girl's mother had given her a "worm medicine," and in the discharges into a mug these larvæ were found. Some more were discharged at another passage. This family was also cleanly, and obtained their water from a driven well of thirty-five feet.

Dr. Alfred S. Carroll had examined the larvæ; had found a record of only two other cases of their appearance in the human intestine. There were only four or five dipterous flies the larvæ of which had the peculiar tails seen in this example, and the larvæ of two were so much alike that they could hardly be distinguished the one from the other until the change into flies had taken place. They might have been ingested on vegetables.

Monstrosity.—Dr. Jewett also presented to the museum a monstrosity, consisting of two female children united at the side and chest. They were born before his arrival, and he was told had shown brief signs of life. Soon a boy child was born, and lived.

Case of Rupture of the Diaphragm (?).—Dr. S. T. Clark related a case in which according to the symptoms he made a diagnosis of rupture of the diaphragm at the anterior superior angle of the œsophageal orifice, with consequent laceration of the artery at that point and disturbance of the phrenic nerve. The injury had been sustained after heavy lifting; immediately there was pain at the ensiform cartilage, pallor, etc. These attacks recurred two or three times when the man violated instructions and ate improperly, causing, it was supposed, distention of the stomach and reopening the wound, permitting hemorrhage and causing displacement of the heart. On July 2d there was rather sudden relief, and the heart was found returned to its normal position, due, it was explained, to sufficient absorption of the clot to permit of its release.

Discussion on Alienism.—This discussion had been arranged by Dr. Judson B. Andrews, and was limited to the causation of insanity.

Heredity and Environment.—Dr. Andrews read a paper on this part of the subject. He would not, as some did, deny the force of heredity, yet it was proper to question the extent of its influence. That there was an heredity of physical characteristics was patent to the most superficial observer; but the force of heredity in mental peculiarities, he said, was not so striking. The drift of thought to-day was, that not the disease, but want of resisting power, was transmitted. To give heredity as the efficient cause would be to ignore in a given case all the diseases and debilitating influences with which life might be surrounded. Statistics had been advanced in argument, but they varied and were more or less unreliable. It was generally believed twenty-five to thirty per cent. of cases of insanity showed some form of it in the ancestry. But heredity alone did not produce insanity. There must be some exciting cause, as impairment of the general health, physical or mental overwork, sexual and other excesses, etc. In early life the parents should look to the environment of the child in whom there might be supposed tendency to insanity, later the individual must become responsible. Considering the manner in which many people live, eating and drinking wrongly, undergoing extreme exposure, etc., the wonder was more did not become insane.

Selection of a Mate.—By way of prevention nothing

was more important than the selection of a companion from a healthy family, of even temper, without known tendency to insanity. It might be objected that advice to this effect would not be followed by those about to mate, but that fact would not change nature's law.

Traumatism and Shock.—Dr. H. M. Hurd, of Baltimore, read a paper on traumatism and shock as causes of insanity. Besides injuries of the skull, resulting in depression of bone, injury of vessels of the brain, and concussion, he classified sunstroke (he preferred to call it heatstroke) under the head of traumatism. As a result of excessive heat the blood-vessels became paralyzed, the current was slowed, the heart beat less rapidly, death in extreme cases resulted from obstruction in the lungs or pressure upon nerve-centres. Passive congestion of the brain might go on to active inflammation, there might be convulsion, delirium, unconsciousness, and death. But in cases not fatal, the power of heatstroke in the production of insanity could not be overestimated. In many instances where the patient apparently recovered from the first effect, there was still such a change set up in the brain as in time to lead to actual mental disease. In its leading characters this form of insanity resembled the traumatic forms. There was the same suspicion and apprehension; there might be delirium or maniacal excitement. The asylum records contained the histories of many cases of chronic insanity dating from sunstroke. Epileptic insanity had a similar origin in many cases which had come under his observation. Progressive dementia seemed to be the rule where there was injury to the brain, but where there was secondary meningitis there were periods of excitement, delusion, suspicion, finally the brain symptoms became allied to those of paretic dementia.

The author gave some examples of change mentally bordering on insanity, following some time an injury to the head. There was no doubt but what insanity developed later in life in cases where, as children, the patients had suffered an injury to the head. The mental change was apt to make its appearance at the physiological epochs in life. Some of these persons developed epilepsy, but the majority did not.

In traumatic insanity the most constant mental symptoms were delusions of suspicion and apprehension. Instances were given of a tendency to vice and crime following trauma. In his experience in asylums about three per cent. of all cases of insanity seemed to be due to trauma.

Arrest of Development and Diseases of Infancy as Causes of Insanity.—Dr. E. N. Brush, of Pennsylvania, read a paper on this phase of the subject. Besides the many cases of insanity in persons in whom imperfect development was apparent, showing some cause operating in childhood, there were cases in which, although there might be no apparent want of development, the history failed to show a period at which there had not been a neurotic tendency. Comparatively recent studies had been made of the palatine arch in the insane and idiots, in whom it was frequently found deformed. In less than one-fifth of the ordinary population the arch was found deformed, while among idiots less than a tenth had a normal palate, and in over two-thirds it was deformed. This deformity was apt to be connected with some imperfect development or change of the bones of the cranium or brain.

Many things might be said of the diseases of infancy and childhood producing insanity.

Bodily Diseases and Senility as Causes of Insanity.—Dr. P. M. Wise sent the paper, which was read by Dr. Andrews. According to a collection of cases of insanity made by Dr. Major, bodily diseases contributed to the cause in twelve to fourteen per cent. Bodily diseases acted secondarily in creating the psychosis through defect in blood-supply, excessive nerve energy through peripheral irritation, extension of disease from lower to higher centres, etc. Post-febrile insanities contributed a small proportion of cases of insanity, smaller than formerly. The pathological process which left the brain disordered after fevers or acute inflammatory processes was unquestionably vascular primarily; secondly, inability to throw off degraded tissue and renew the element. The relation of phthisis to insanity was not well defined. The conditions of hospital life tended to develop phthisis; less so at present, however, than in the past, when hygiene received less attention. Phthisical insanity was characterized by delusion of suspicion. Heart disease was not uncommonly a direct physical cause of insanity, independently of other predisposing conditions. The anæmia resulting from aortic stenosis and the congestion or œdema following mitral disease were explanatory of not a few cases.

Arterial capillary fibrosis, or endarteritis, was frequent in the insane when admitted to hospitals. The manifestations of insanity in these cases appeared to indicate a lowered nutritive condition, and could not well be confounded with the uræmic insanity of Bright's disease, which, in his experience, was seldom met with in hospital insane.

Insanity occasionally followed an attack of nephritis; rheumatism be the sole cause; gout also might produce a mental state bordering on insanity. But of bodily diseases syphilis exerted the largest influence in the production of insanity. Myxœdema, sunstroke, and other conditions were mentioned.

The popular belief that diseases of the sexual organs bore a common and close relation to insanity was not thought to be well founded. The connection, when it existed, was often only incidental. There was, he said, no uterine psychology. He had not yet seen a recovery from insanity which was even remotely due to gynecological treatment. It was seldom where insanity had followed childbirth that there was not an hereditary or acquired tendency. Extension of disease from the cord to the brain, producing insanity, constituted a small ratio, yet in hospitals one met with many cases of disease of the cord in connection with insanity. It was not infrequent for general paresis to follow tabes, and in such cases there was probably a like cause. Epilepsy, chorea, catalepsy, etc., often had insanity supervene. Epilepsy was a cause in about eight per cent. of hospital cases. Loss of special senses might be followed by insanity.

The author thought it might be said that generally the psychology of bodily diseases had been a neglected subject. Speaking of senile insanity, while the disease did occur at times in the aged, yet as a rule the mental changes were not so great but what they could be accounted for by the retrograde process which took place in the aged. It was a tendency to blotting out of the faculties. He hoped physicians would exercise discretion, and not, taking advantage of the new law, overload the State institutions with this class of cases.

Syphilis and Intemperance as Causes of Insanity.—Dr. G. Alder Blumer, of Utica, read this paper. Insanity, he said, was due to a conspiracy of conditions, and the best that one could do was to name the arch-conspirator. Brain syphilis was not uncommon. Could it produce general paresis? Some said it produced true general paresis; at any rate it often produced something closely resembling it. The percentage of cases in which syphilis was present in the insane had been stated differently by observers. In 257 cases of general paralysis the author had found that 66.5 per cent. were syphilitics. But it was a question in these cases how much alcoholism, sexual and other excesses, which were common, contributed to the disease. When one spoke of intemperance he entered upon dangerous ground. Some exaggerated this influence, yet it was undoubtedly great. To the credit of America it could be said that the proportion of cases of insanity attributable to intemperance was lower than in Europe. Forty five per cent. of the cases in Vienna (where beer was much used) were attributed to intemperance.

Causes of Insanity Peculiar to Women.—Dr. W. D. Granger, of Mount Vernon, read the paper. His con-

clusions were: 1, Men and women suffer almost equally from insanity; 2, sex modifies somewhat the disease. as does each individual, each cause, etc.; 3, that the general causes of insanity are the same in men and women; 4, that special conditions peculiar to each sex occupy a narrow field in the total causation of insanity; 5, that the general causes are always more or less in operation at times when special causes operate; 6, that causes peculiar to women—the climacteric period, pregnancy, childbirth, prolonged lactation, uterine disease, menstrual irregularities—are to be found, one or more, in almost every woman, yet few suffer insanity; 7, that special causes operate essentially in the same way as do general causes, by producing anæmia, malnutrition, shock, loss of sleep, etc.

Gunshot Wound of the Brain.—Dr. John Cronyn related, in a paper bearing the title "Subjects of Interest, Medical and Surgical," two cases, the first of which was one of gunshot wound of the brain. The patient was a boy. The ball entered the forehead on the left side, above the orbit; he was supposed by the parents to be dead. When Dr. Cronyn probed the wound the instrument entered the brain, came in contact with the bullet, caused a click, and the ball moved backward. This was followed by twitching of the limbs, respiration, and signs of returning life. The third day the boy became conscious. He seemed not to know what had happened. The right arm and leg were paralyzed. Within three months he was able to be up; the paralysis was much better, he made great efforts to speak. Before the accident he had been able to read, write, and cipher, but on recovery he had lost all recollection of the alphabet and had to learn it over again, but his capacity for calculation had improved tenfold. In due time there was complete restoration to health; one could scarcely recognize where the ball had entered, and when he presented the boy at a medical society doubt was expressed whether he had ever sustained a gunshot wound of the head. Nine years and a half after the first accident the boy was struck on the opposite side of the head, died in a few days, and the coroner found the old bullet sacculated in the posterior portion of the left hemisphere, lower in the brain mass than the point of entrance. Careful search was made for the track of entrance, but no trace of it could be found. The case was of interest psychologically, and as showing the tolerance of the brain.

Recovery from Locomotor Ataxia.—Dr. Cronyn's second case was one of locomotor ataxia in the second stage, with cure following an attack of erysipelas of the face and head. The symptoms of locomotor ataxia in the second stage were recognized by several of the hospital staff as typical. The man continued under treatment about a year, without benefit, when the attack of erysipelas set in after exposure to cold. He was violently delirious about four days. After recovery from erysipelas it was noticed that he could walk without a cane, there was no ataxia, he remained well and in the hospital for three years, was exhibited to students, and had continued well since returning to work. Dr. Cronyn asked to what the cure was due? There had been no history of syphilis, and the treatment had not been antisyphilitic. He suggested that the erysipelas may have extended down the cord, producing congestion, local extra-nutrition of the sclerosed lateral columns, with restoration of function. Of course the diagnosis would be doubted, yet it had been confirmed by several neurologists.

At the evening session Dr. Charles Stedman Bull read a paper on "Tumors of the Orbit and Neighboring Cavities," and Rev. William C. Bitting delivered an address on "Biblical Medicine," after which a collation was served.

Third Day, Friday, October 23d.

Orton Prize Essay.—The committee reported that ten essays competing for this prize had been submitted, and after due deliberation it had been decided to award the prize to the one on "Impure Air and Ventilation of Private Dwellings." The envelope containing the author's name had not yet been opened. The essay will appear in the "Transactions."

Mental Therapeutics.—Dr. Henry D. Didama in this paper quoted instances contained in ancient and modern history, some of which showed that mental suggestion or mental action had alone effected a cure; in some there was combined mental and physical action, some it was difficult to classify. Among the several classes might be mentioned the looking upon a stone which was said to have the power of curing all diseases, animal magnetism, carrying a horse-chestnut, hydrophobia cure, etc. There were many cases in which it was difficult to say just how much the cure was mental and how much physical, or due to the action of a drug upon the body. In proportion to the ignorance of a people was charlatanry successful.

Dr. H. O. Marcy in discussing this paper said that if he were going to offer a prize it would be for an essay on a subject like that so ably dealt with by Dr. Didama, in order that the public might be educated out of their ignorance and wooed from their superstitious beliefs regarding disease and its cure.

Address on Gynecology.—Dr. A. Palmer Dudley read the address. After a brief review of what gynecological surgery had accomplished in the past ten years, and expressing the conviction that the balance rested largely on the side of profit, he took up one kind of failure which had occurred in a certain per cent. of the cases.

Fecal Fistulæ Following Laparotomy.—The nature of the failure referred to was the occurrence after laparotomy of a fecal fistula which, in some cases at least, caused the patient greater annoyance than the disease for which an operation had been performed. It was all the more important to reflect upon and study these cases, because the condition was one which might be obviated by care in the breaking up of adhesions and freeing the appendages for removal. A fecal fistula had formed in two cases out of two hundred consecutive laparotomies in his own practice, and he had been able to collect the record of seventy-four altogether. In sixty-four of these, extensive adhesions in the pelvis and injury to the gut while breaking them up, overlooked at the time, were the prime cause of the accident. The next most frequent cause was the indiscreet or improper use of the drainage-tube. It was used in many instances where there was no need for it. Gauze was safer than the glass tube. In only 13 of the 74 cases was the drainage-tube not used; in 26 the accident was attributed to the tube by the operator. A third cause was the use of catgut in intestinal surgery. While the author was a strong advocate of catgut generally, yet in suturing the intestine it was unsafe, since a small strand had to be used and the fluids in the intestine were likely to act upon it and cause it to give way before union had been obtained. In the 74 cases Tait's operation, tubercular peritonitis, and ovarian cyst occupied the first, second, and third places. The location of the opening in the gut was not known in many cases.

The author gave the history of one of his own cases in detail, it being one of fistula which had already formed after an operation in California. He opened the abdomen, closed several openings into the gut, just above the cæcum, and dissected out the fistulous tract. The patient did well for some days, and then fecal extravasation again took place, due to giving way of the sutures in the larger of the intestinal perforations. Death resulted. If by medical and simple procedures a fecal fistula could not be closed, laparotomy should be performed, and the tract and opening into the intestine be dealt with according to the indications in the individual case.

Optic Neuritis as a Form of Peripheral Neuritis.—Dr. Alvin A. Hubbel, of Buffalo, read the paper. Among the causes of this form of optic neuritis might be mentioned injury, contiguous inflammation, growths causing

pressure and irritation; certain substances or poisons, as alcohol, lead, arsenic, and bisulphide of carbon; certain diseases, of which diphtheria was a marked example; also typhoid fever, malarial fever, etc. In short, certain poisons and certain diseases might cause an inflammation of all classes of peripheral nerves, those of special sense as well as those of motion and sensation; the cause was widespread and common, and the treatment identical.

Puerperal Eclampsia—Report of a Desperate Case.—Dr. George E. Fell related the case. Coma and convulsions came on at the seventh month. Three physicians had been called before he arrived. Hydrate of chloral and diaphoretics were used. He effected delivery. The uterus was irrigated. Albumin was plentiful in the urine. Chill and fever appearing about the fifth day, the uterus was again thoroughly flushed. The patient recovered. The uric acid diathesis was very marked in this case, and doubtless had been present before, and he asked what influence it may have had in causing the puerperal eclampsia. A ptomaïne, leucomaïne, or some toxic agent would probably be found to be the cause of puerperal eclampsia, as of other conditions. He thought his patient would have died had the uterus not been irrigated, and he queried whether this treatment might not save many other cases.

Dr. Fell also related the case of a woman who had a pneumonic complication and in the course of a few days inhaled over one thousand gallons of oxygen. Whenever it was discontinued marked symptoms of dyspnœa returned. There was ultimate recovery.

Disease of the Knee-joint in the Convalescent Stage.—Dr. T. M. L. Chrystie, of New York, presented in this paper arguments to show that while during inflammation the knee should be kept at absolute rest, after the inflammation had subsided motion with certain restraining conditions was necessary in order to keep up the integrity of the joint—to keep the component structures in a healthful state. But during convalescence from disease the muscles and structures about the joint were in what had been called a devitalized state, and if use were permitted without certain restricting conditions injury would result which would tend to repeat itself with every attempt to walk. An example of this was given in the case of a man whose limbs appeared to be normal except that one was shorter than the other. This led to a lateral jerk in the knee on the side of the short leg, and the injury constantly repeating itself while walking, a synovitis was the result. A cure was effected by lengthening the limb with a cork sole applied to the shoe. Dr. Chrystie then presented and described an apparatus to be worn during convalescence from knee joint disease.

Typhoid Fever in Children.—Dr. William D. Garlock, the author, thought the germ-theory certainly applied to typhoid fever. Having given the sources of the germs, and mentioned the symptoms as they occurred in children, the author tried to account for the difference in the course of the disease as it appeared in children and adults. In children there was less frequently ulceration of Peyer's patches, consequently of perforation and of hemorrhage. The fever was milder and shorter in children, to be accounted for by the fact that there was less septic absorption from Peyerean ulcers. For the same reason there was less pain and gurgling in the abdomen. The eruption was often absent. There was greater liability to nephritis and bronchitis in children. The sensitiveness of the vaso-motor system in children, shown in the ready blush, etc., would account for certain peculiarities of the disease as manifested in them.

Dr. Alfred L. Carroll admitted the obscurity of the symptoms of typhoid fever in children in many cases, which made the diagnosis difficult. He believed he had sometimes made the diagnosis of typhoid when malaria was the real trouble. He thought there was quite a number of cases of infantile remittent, although some authors doubted the existence of this disease.

Dr. Stephen Smith remembered a case in which Dr. Alonzo Clark was present in consultation, and called it typhoid fever, saying that he had hardly seen a case of remittent fever, which the other consultants thought this one to be. Yet he admitted not having made an autopsy in the typhoid of children, and could recall but one case in which the ulcer of Peyer's patches had been found.

Carcinoma of the Breast.—Dr. Joseph D. Bryant read a brief paper, which was intended to be a discussion of a paper by Dr. Wyeth which was read by title. Dr. Bryant confined his remarks to the conditions most likely to contribute to good results. The main points were that patients should early recognize the presence of any tumor, immediately consult a competent physician, means be taken to make an exact diagnosis at once, and, carcinoma being recognized, make free excision, going if possible at least an inch outside of apparently healthy tissue, then remove the lymphatics of the axilla whether seemingly enlarged or not. Recurrent manifestations of the disease should be met in the same prompt manner.

Lateral Curvature of the Spine Associated with Hernia.—Dr. S. E. Milliken, of New York, read a paper with this title. In connection with his duties at the hospital for the Ruptured and Crippled he had often had his attention drawn, while examining young people for hernia, to a commencing lateral curvature which had not yet attracted the parents' attention. It might be that the theory of a lack of strength of muscles, offered by some to account for the one condition might account for the occurrence of both hernia and lateral curvature in the same individual. It would be necessary, however, in offering the same theory in explanation of both conditions, to account for the greater frequency of hernia in boys and of lateral curvature in girls. He was convinced that a badly fitting truss had something to do in the causation of spinal curvature in some patients.

The author made some observations upon treatment, especially mechanical and gymnastic. An attempt had been made at a combination of the two, but he thought it would always prove impractical, for they were completely antagonistic to each other. Where a splint was used he preferred the plaster-of-Paris jacket. An early diagnosis was important, and the parents or a physician should see that the child maintain as constantly as possible a proper posture, exaggerating the same during gymnastic exercises before a mirror.

Dr. E. M. Moore said he had tried the old method of using the perineal band with straps attached, with a view to correcting lateral curvature, but found, as others probably had, that owing to pain in the perineum the patient would not stand sufficient pressure to be thus made to prove of any benefit. Thinking, however, that the principle was correct, and that restraint such as a splint would enforce was objectionable, he set to work to devise a means by which the subject would be led to correct his position, say ten thousand times a day, and thereby in time overcome his deformity. In carrying out his idea he made use of the long spring which had its connection with the foot, and straps were so passed as to make pressure upon the projecting points caused by the curvature, and while not restraining motion it was sufficiently annoying to the patient to lead him to try to get out of its way and therefore to straighten up. In the few cases where he had applied it, good results had been obtained, and he regarded it as the best apparatus which he had seen, yet he had not published its description.

Dr. Thomas Manley also made some remarks, and impressed the importance of healthful food and hygienic surroundings in connection with other treatment.

Congenital Imperforate Rectum.—Dr. E. D. Ferguson read a paper on this subject, relating a case operated upon successfully with another physician, and describing methods applicable to the four different classes of cases, namely, those in which there was simple occlusion by membrane or skin, those in which there was absence of the anus, the canal ending in a pouch or series of pouches, those in which the proctodium formed but failed to con-

nect with the rectum, and those in which there was entire absence of rectum and anus. One should seek to make an opening for the canal in the normal position for the anus, and if the case were found to belong to the fourth class, perform colotomy.

Dr. Judson B. Andrews was elected President.

Correspondence.

MATERNAL IMPRESSIONS AGAIN.

To the Editor of the Medical Record.

Sir: Being a firm believer in maternal impressions, I have been not a little interested in articles on that subject which have appeared of late in your journal. It seems to me, however, that in the communication which appeared in a recent issue, the writer would have made points for "our side" by leaving out his first case.

Will it not be too much to ask "the opposition" to believe that one rosy dawn was responsible for five albinos, and they not all in succession?

The following are some cases which have come under my notice and have served to strengthen my belief in maternal impressions:

Mrs. M. W——, on realizing that she was pregnant, was nearly mad with rage; upbraided her husband; threatened to kill the child, etc.

The child was born at full term with no more than the usual amount of difficulty. It proved to be an idiot.

Mrs. S. J—— had precisely the same experience and with a like result. She, however, became reconciled to child-bearing and has since been delivered of four children, all of whom are of average intelligence.

Mrs. H. G——'s brother had his left arm amputated. She called at his house to see him, and while there a secondary hemorrhage of the stump commenced. When the child which she was carrying at the time was born it was minus a left arm.

Mrs. S——, while yet a short time pregnant, saw her neighbor's child which had been struck in the head by a car. The right superior maxilla was crushed in and the inferior maxilla sustained a comminuted fracture of the right side, giving the face a peculiar one-sided appearance. Mrs. S——'s child when born had the same peculiar asymmetrical features.

I will make no comment on these cases, they speak for themselves.

Physician.

New York, October 20, 1891.

New Instruments.

A SAFE FEMALE CATHETER.

By MALCOLM McLEAN, M.D.,

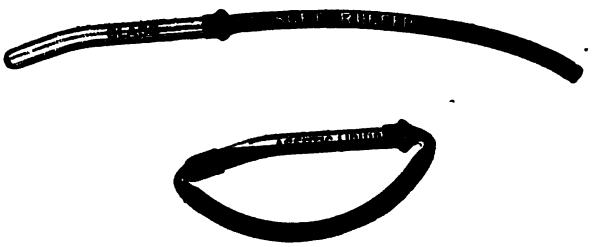
new york.

One of the annoyances with which we commonly meet, in the special treatment of women, is an irritable or inflamed bladder—the result of catheterization of that viscus. The necessity for the use of a clean, non-irritating instrument has called forth many devices to circumvent the evils alluded to—especially the mischief often produced by the catheter in the hands of the nurse.

Glass, the cleanest of all materials, has recently superseded other instruments in the hands of many of the best surgeons. But I have found a practical objection to all of the catheters hitherto invented, or, at least in all which I am acquainted with—namely, an undue length, whereby it is possible—and it does occur—that a nurse at least may injure the delicate mucous membrane of the bladder by allowing the bladder to contract violently upon the end of the instrument.

This fact frequently observed, even in the case of the soft rubber catheter, has induced me to devise a simple glass instrument which has done away with all of the objections which usually appertain to those hitherto in use.

It consists essentially of a glass tube, slightly bent to suit the urethra, having the perforation in a well-rounded end; and at the distal extremity a good flange for the purpose of attaching a piece of rubber drainage-tube five inches in length. The glass tube is exactly two and one-half inches long. The attachment of the drainage-tube occupies one-quarter of an inch, thus leaving a maximum length of catheter two and one-quarter inches. This will thoroughly empty any bladder; at the same time the point of the instrument only enters the bladder to a position where it cannot impinge against its walls. I have taken pains to emphasize this element of length, as one of the chief advantages of the instrument would be lost if it were lengthened beyond the dimensions given. The drainage-tubing serves as a convenience only, and may be removed at will. While not in use I fill the catheter with an antiseptic liquid and retain it by attaching the distal end of the tubing to the bladder end of the catheter. This keeps the inside of the instrument surgically clean. Of course proper sterilization of the catheter should be secured before using. I have put this in the hands of all my nurses with the greatest satisfaction in the results. The woodcut is an exact representation—one-half size.



Mr. M. J. Breitenbach has manufactured the catheters accurately. The W. F. Ford Instrument Co. and others also keep them in stock.

29 East One Hundred and Twenty-sixth Street.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 25, 1891, to October 31, 1891.

Ball, Robert R., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month, with permission to apply for an extension of one month.

Maus, Louis M., Captain and Assistant Surgeon. Relieved from duty at Whipple Barracks, Ariz. Ter., and ordered to Fort Apache, Ariz. Ter., for duty.

Richards, Charles, Captain and Assistant Surgeon Relieved from duty at Fort Logan, Col., and will report in person to the Commandant of the Military Prison, Fort Leavenworth, Kan., for duty.

Official List of Changes in the Medical Corps of the United States Navy for the week ending October 31, 1891.

Harvey, Henry P., Surgeon. Ordered to Receiving Ship St. Louis.

Flint, James M., Surgeon. Detached from Smithsonian Institution, and ordered to the Miantonomah.

Heyl, T. C., Surgeon. Detached from Receiving Ship St. Louis and to wait orders.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 31, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	61	12
Scarlet fever	79	15
Cerebro-spinal meningitis	2	3
Measles	28	3
Diphtheria	97	32
Small-pox	0	0
Varicella	4	0
Pertussis	3	4
Erysipelas	1	0
Mumps	0	0
Rötheln	0	0

The Influence of Sex in Otitis.—Dr. Loewenberg, of Paris, discusses the influence of sex in what he calls the "laterilization" of ear disease. After referring to the view generally held by otologists, that the left ear is more liable to be attacked alone, or to be attacked first and to suffer more severely when both ears are affected, he says that he has for a long time past been struck with the fact that, while deafness is more common on the left side in men, the same does not hold good in the case of women. From statistics of 3,000 cases (not including diseases of the concha and external meatus) which have come under his own notice, he shows, in the first place, that the male sex is more subject to ear disease than the female, there having been 1,790 of the former to 1,210 of the latter. Among those in whom only one ear was affected, there were 478 men and 311 women. The right ear alone was affected in 212 men and 167 women; the left alone in 266 men and 144 women. Deafness existed in both ears in 1,074 men and 737 women. Among this number the right ear was the more deaf of the two in 427 men and 340 women, the left in 647 men and 397 women. Deafness was equal on both sides in 238 men and 162 women.—*British Medical Journal.*

Hypnotism in Surgery.—A female patient under the care of Mr. Hare, in Ancoats Hospital, Manchester, was suffering from anchylosis of the elbow-joint of long standing, for which excision was performed. In spite of early passive movement after the operation, the joint again became immobile in an extended position. The patient was then hypnotized by Mr. Mursell, the resident surgeon, and was told that she could bend the arm without pain. This she did, and the suggestion remained effective for several days. She was again hypnotized and the suggestion repeated, with the effect of procuring perfect power of motion in the joint.—*Lancet*, September 26, 1891.

Leprosy in Siberia.—Two English ladies, Miss Marsden and Miss Field, are living in Siberia, where they have devoted their lives to the care of the outcast lepers in that bleak and desolate region.

India-rubber Heels are recommended by a French military surgeon in order to prevent repeated slight shocks to the nerve-centres, to which he believes the sensation of fatigue is largely due.

Tape-Worm.—A correspondent writes to know if there is any better remedy than male-fern or pumpkin seeds for the cure of tape-worm.

A Penalty for Not Believing in Vaccination.—It is said that fully 25,000 deaths occurred in one of the recent epidemics of small-pox in Guatemala, but notwithstanding this frightful mortality and the frequency of small-pox scourges, the Government has taken no pains to introduce any scheme of vaccination, and the state is without any vaccination laws at all. In this respect Guatemala is far behind some of the neighboring Central American countries. A medical society in Guatemala has taken up the subject and will endeavor to persuade the Government to adopt proper sanitary laws.

Bearing with Him.—A new terror of courtship has been developed in the case of an Indiana brunette. For some days she has suffered from a supposed attack of pleurisy, but when Dr. S. F. Bordman was called in he found that one of the young lady's ribs was fractured. After much questioning the girl blushingly admitted that her best beau had inflicted the injury while giving her his usual tender embrace before parting on his last visit. The occurrence of the accident was marked by a sharp pain in the side, a "catch in her breath," and a sudden relaxation of her hold.

The First Colored Female Physician.—Dr. R. J. Stanton, of this city, writes: "I wish to correct the impression that the first female colored doctor belongs either to the South or to the West. She belongs to our own State of New York. In 1876 Miss Sarah M. Loguen, daughter of the late Bishop Loguen, and a relative of Fred. Douglass, was graduated from the Syracuse Medical College."

Dr. Robert Reyburn, of Washington, D. C., writes: "SIR: Allow me to correct an error in the MEDICAL RECORD of October 17, 1891, page 488, which states that 'Dr. Consuela Clark, a colored lady of Cincinnati, O., has practised medicine since 1886.' This seems to claim for Dr. Consuela Clark that she was the first colored female graduate in medicine in the United States. The Catalogue of the Medical Department of Harvard University, which I send herewith, shows on page 25 that Miss Eunice V. Shedd graduated in medicine in 1877. On the same page will be found the name of Miss Nannie W. Stafford, who graduated in 1878. The Medical Department of Harvard University has graduated colored female physicians at almost every commencement since 1880, and was among the earliest of the medical colleges to adopt the three-years graded course, having adopted it in the session beginning 1879–1880."

A Fraudulent Canvasser.—A swindler is travelling in the West who represents himself as agent of the St. Louis Library Association, and obtains subscriptions for leading periodicals at reduced rates. Of course all he receives is clear profit, as no magazines are forthcoming. He is particularly attentive to physicians, hosts of whom are complaining of the swindle. He is described as having reddish hair, is five feet eight inches tall, is about thirty-five years of age, weighs about one hundred and sixty pounds, and is a glib talker. He gives all sorts of receipts, and mystifies by his apparent care in his attention to details.

Points on Syphilis.—The glands above Poupart's ligament are the immoral glands. If you find them enlarged, examine the penis, and in nine-tenths of the cases you will find the cause in the penis. If the swelling is in the glands below Poupart's ligament, the cause is probably in the foot. In syphilitics a heavy chill and high fever, followed by sweating, will be followed by marked secondary symptoms. Secondary symptoms beginning with a papular or tuberculous eruption show a very severe attack. Syphilitic eruptions are polymorphous; that is, many forms of eruption are present at the same time—the roseolous, erythematous, papular, etc. This is not the case in non-syphilitic eruptions, a point of diagnostic importance. The reason the hair is lost in syphilis is, that there is a proliferation of connective-tissue cells, which press on the hair-bulbs and cut off the blood-supply and cause the hair to die. As soon as the patient is put on treatment, and these cells are absorbed, the hair again grows if the bulbs have not been destroyed. It is by means of the skin that the poison of syphilis is eliminated, as we see by the eruptions.—*Horwitz in Times and Register.*

The American Public Health Association was organized in 1872 for the purpose of inaugurating measures for the restriction and prevention of contagious and infectious diseases, and for the diffusion of sanitary knowledge among the people. The growth of the association and the work it has accomplished more than justify its existence. Its membership has been augmented from year to year until it now constitutes the largest and strongest sanitary body in the world, and embraces in territorial extent the United States, the Dominion of Canada, and the Republic of Mexico. Under the impetus given by its work, state and local boards of health and sanitary associations have been organized, sanitary publications increased, and hygienic knowledge widely and extensively diffused. The qualifications required for membership are a good moral character, an interest in hygiene, and the indorsement of two members of the association. Application blanks may be obtained from the secretary, Dr. Irving A. Watson, Concord, N. H.

Syphilitic Reinfection.—At a recent meeting of the Kieff Medical Society Dr. Boroffski reported the case of a man who had been treated for a syphilitic chancre in 1885. In November, 1890, he entered the Kieff Hospital for treatment of syphilis. He stated that three weeks after an impure connection he noticed an ulceration along the corona of the glans, which was diagnosed by the physician whom he consulted as a hard chancre. Soon after the inguinal and cervical glands became swollen, and at the end of seven weeks he had a general syphilitic eruption covering the entire body. Examination showed the presence of mucous patches on the mucous membrane of the cheeks, tonsils, and palate.

The Hospice of the Great St. Bernard.—This asylum for the Alpine wayfarer (7,609 feet above the sea-level) is said to have been founded A.D. 962 by St. Bernard, of Menthon, while, according to some authorities, it rose a century earlier, under Charlemagne. Neither saint nor emperor is likely to make good his claim, as the archives of the hospice have been completely destroyed in two successive conflagrations. But, like other Christian institutions, it had undoubtedly a pagan predecessor. The Romans on the self-same spot built a temple to the Pennine Jove, and that, in turn, occupied the site of a still earlier shrine of prehistoric antiquity. The truth is, the Alpine passes were in common use from the remotest ages —the Christian world treading the same route which had been trodden by the Romans, who also availed themselves of the track made by the aborigines. At its highest point the tutelary deity had his place of worship, and this was served by the local priesthood, who rendered assistance to the distressed or ailing traveller and received votive tributes in return for its good offices. The existence of a temple of Jupiter on the spot, with its staff of priests, is well known; and the relics that have turned up near it attest its uses to have been similar to those of the present hospice. A discovery of importance has just been made in its vicinity—a bronze statue in excellent preservation of Jupiter himself. Its artistic value is very great; its height forty centimetres. At the same time other treasure-trove was brought to the surface, including a number of medals and a statuette of a lion measuring sixteen centimetres, also of fine workmanship. These are now the property of the monks, and will attract to the hospice a public more able to keep them in funds than the proper recipients of their kindness. Sad to relate, the revenues of the monastery, heavily drawn upon by the travellers (from 16,000 to 20,000 annually) who throw themselves on its bounty, are diminishing, the contributions left by these comfortably accommodated guests being miserably below what, in the majority of cases, they can afford. The heroism of the monks should be remembered by the well-to-do holiday visitor. They begin their career at the age of eighteen or nineteen. After fifteen years' service the severe climate has made old men of them. For eight or nine months out of the twelve they see none but the poorest wayfarers, when the cold is intense, the snow lying deep, the danger from storms incessant and fearful. Their sole companions are the dogs, whose keen scent has guided them to the snow wreath under which the buried traveller has so often been rescued and brought to life—dogs like that noble fellow "Barry," who saved forty men in his time, and who now, carefully stuffed, adorns the museum at Bern. The poet laureate of the monks, we are proud to say, was a medical man, the late Dr. David Macbeth Moir, of Musselburgh (the "Delta" of *Blackwood*), whose sonnet beginning "Where these rude rocks on Bernard's summit nod," is one of the finest in our language, and, translated into Ovidian elegiacs by Dr. Samuel Butler, Bishop of Lichfield, forms the gem of the "Arundines Cami."—*The Lancet.*

A Backslider for Malthusianism.—Mrs. Annie Besant, since she has begun to receive communications from the Mahatmas, has recanted her advocacy of the doctrines of Malthusianism. She still sees evil in large families, but thinks man should avoid this material evil by the spiritual remedy of marital restraint, rather than by the material one of mechanical prevention.

Syphilis in South Africa.—According to the annual report of the Albany General Hospital, Grahamstown, South Africa, syphilis is very prevalent in that district, nearly one-sixth of the patients admitted during the year being cases of that disease. The number, however, is steadily decreasing, and since the Contagious Diseases Act has been put in force in the seaport towns the disease has assumed a milder form. Of the sixty-three patients admitted only nine were whites, one female and eight male. Among the important and rare cases, other than syphilitic, were four of hydatids of the liver, three of which were cured by operation, and one died from rupture of the hydatid cyst into the peritoneal cavity before admission to the hospital.—*Hospital Gazette*, September 26, 1891.

Post-Graduate Instruction in Germany.—The medical faculty of the University of Greifswald has established a system of post-graduate instruction which promises to be popular, as upward of eighty German and foreign physicians are in attendance at the first course.

The Association of German Alienists, at its recent session in Weimar, passed a resolution approving of the new law to repress drunkenness, but deprecated the clause referring to the punishment for intoxication. It was recommended that habitual drunkards be sent to State institutions, where they should be under constant medical care.

The Source of False Hair.—The English consul at Canton says that eighty thousand pounds of human hair have been exported from that city during the past year, and that it comes mainly from those who have died of contagious diseases, mendicants and criminals.

Some Things Ordered at the Druggist's.—A well-known Philadelphia pharmacist has recently received the following written orders for medicine: A dose of castor-oil for a child aged fifteen. Be sure and send enough to work her good. One dozen two-ounce quinine pills; one bottle honeatta water; a boo gee; one box of Brandteth's pills, sugar quoted. Please send enough appecac to throw up a four months old baby; two five-grain blue mask pills; ten cents worth partisapated chalk.

Nux Vomica in Cardiac Failure.—Dr. A. Bowie (London *Lancet*) reports two cases of cardiac failure in which death seemed imminent, that were speedily relieved by small doses of the tincture of nux vomica every half-hour for four doses, then every hour. He considers it the most valuable remedy that we have.

Dangerous Pets.—A French scientist declares that the lomestic pets of the world carry at least thirty per cent. of the common contagious diseases from house to house.

Malformation of the Heart.—A remarkable case of congenital malformation of the heart has been recorded by C. Cipriani. The subject, a male, lived to the age of twenty, having been markedly cyanosed all his life. There was transposition of the lungs, and the heart lay on the right side. This organ consisted of only two chambers—a lower conical one with a rudimentary septum at the apex, whence proceeded the pulmonary artery (with stenosed orifice) and the aorta. The upper chamber was somewhat narrowed where it was connected with the lower one, and at this spot was a rudiment of a valve. Neither this valve nor those of the pulmonary artery and aorta were competent. The liver occupied both hypochondriac regions, and its left lobe was much more developed than the right. The spleen was hypertrophied, and had a horizontal furrow across its middle portion, while in the vicinity were three other spleens, each the size of a fowl's egg. The stomach was very small and atrophied. The duration of life under these circumstances is not the least singular feature of the case.—*The Lancet.*

Preparing the Skin for Antiseptic Operations.—Dr. F. W. Langdon, of Cincinnati (*Lancet-Clinic*), calls attention to the value of benzin as a solvent of oily secretions in the preparation of skin areas for antiseptic operations. An agent that can penetrate and disinfect the pores and follicles of the region to be operated upon has advantages not possessed by any of the watery solutions in common use.

The Influence of One Fever on Another.—Under this caption, Dr. H. Noble Joynt, of the Bradford Fever Hospital, gives some observations which he has made in the course of his wide experience in fever cases.[1] He remarks: "It is the daily experience, and indeed the bane, of every fever hospital physician to see a patient suffering from one fever, develop a second which has been incubating in his system before admission; or when convalescent, contract a fever from some other patient in spite of all precautions." Thus he has seen "mulberry rash of typhus and the rose spots of enteric well developed at the same time; the erythema of scarlatina forming a brilliant ground for the vesicles of varicella, the dark maculæ of measles and rötheln, and the rose spots of enteric."

Such observations are by no means new, but it has been the custom to deny that they are due to the presence of two distinct diseases in the individual at the same time, but to assume that these appearances are more apparent than real, and merely accidental manifestations of the original poison.

The dictum that but one infectious disease can exist in an individual at a time, has secured an almost universal acceptance, and has even dominated workers in original investigation, and yet it must be admitted that it stands only on clinical ground, and therefore is no more worthy of credence than the opposite view.

Now that it has been established that diphtheria is a local process, which produces its systemic effects through the poisons elaborated at the seat of the lesion, and absorbed therefrom, there can certainly be no objection, even theoretical, to the view of the old clinicians that diphtheria may be engrafted upon any of the infectious diseases.

Certainly the chemical poisons of diphtheria can be absorbed from a mucous surface by a patient affected with an infectious disease, as readily as the medicines administered can be absorbed, and there is no reason why their superadded effects should not be exhibited. When it has been shown satisfactorily just how many and what microörganisms can produce the disease or diseases known clinically as diphtheria, it will be time enough to determine whether the false membranes developed in the throat in scarlatina, typhoid, and other diseases, are truly diphtheritic or not.

Why are not many of the symptoms of typhoid fever due to the absorption of poisons from the intestinal canal, intoxication complicating infection?

Concurrent varicella and scarlatina has recently received some attention at the hands of the French.

We have recently seen a child, who in the course of whooping-cough, developed a typical enteric fever, during which the characteristic whoop ceased, to return on the cessation of the fever.

It is admitted that clinical evidence alone is not sufficient to establish the concurrence of two diseases, neither is it sufficient to disprove their concurrence. The apparent concurrence of two infectious diseases is not common, but to deny that such an actual concurrence is impossible is going farther than exact observation warrants.—*Journal of the American Medical Association.*

[1] Practitioner, xlvii., p. 261.

The Treatment of Senile Gangrene.—In a recent issue of the *Deutsche Medicinische Wochenschrift*, Professor Haidenhain presents his views on this subject, which are based on a careful study of twenty-five cases of senile gangrene of the lower extremity, the majority of which occurred in diabetics. It is a well-known fact that this form of gangrene is characterized by especial severity, so that the author's rules for treatment are worthy of careful consideration. He advises that as long as the gangrene is confined to one or two toes we should abstain from surgical intervention, and wait for a line of demarkation to form. Local antiseptic measures and elevation of the limb are all that is required, and we are especially warned against the detachment of the gangrenous portions with the scissors and forceps, which tends to increase the inflammation. If the gangrene spreads to the dorsum or sole of the foot, we should adopt Hutchinson's recommendation and amputate at the thigh, making as small skin flap as possible. An extensive experience has shown that amputation below the knee in these cases is apt to be followed by gangrene of the flaps, which, if it does not lead to a fatal termination, renders a second operation necessary. If high amputation is deferred until the development of fever and suppuration the prognosis becomes the more unfavorable. While it is true that a successful result has sometimes been obtained by amputating below the knee, the weight of testimony is decidedly in favor of the high operation.—*Inter. Jour. of Surgery.*

To Empty a Distended Bladder.—To empty at once a distended bladder, is to expose the patient to the danger of a vesical hemorrhage; it is necessary to desist as soon as the urine does not escape in a jet, but falls in driblets, drop by drop.

BOOKS RECEIVED.

ESSENTIALS OF BACTERIOLOGY. By M. V. Ball, M.D. 12mo, 159 pages. Illustrated. Price, $1. W. B. Saunders, Philadelphia, Pa.

THE NEUROSES OF DEVELOPMENT. By T. S. Clouston, M.D. 8vo, 138 pages. Illustrated. Price, 7*s.* 6*d.* Oliver & Boyd, Edinburgh.

EVIDENCES OF THE COMMUNICABILITY OF CONSUMPTION. By G. A. Heron, M.D. 8vo, 163 pages. Price, $1.75. Longmans, Green & Co., New York.

A SKETCH OF SURGICAL HISTORY. By John Hund, M.D. 8vo, 38 pages. Price, 75 cents. Ed Ackermann & Co., Chicago, Ill.

TRANSACTIONS OF THE MICHIGAN STATE MEDICAL SOCIETY FOR THE YEAR 1891. Vol. XV. 8vo, 400 pages.

A CLINICAL TEXT-BOOK OF MEDICAL DIAGNOSIS. By Francis H. Stuart, M.D. 8vo, 700 pages. Illustrated. Price, cloth, $4; sheep, $5. W. B. Saunders, Philadelphia, Pa.

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Original Articles.

THE SURGICAL TREATMENT OF PYLORIC STENOSIS, WITH A REPORT OF FIFTEEN OPERATIONS FOR THIS CONDITION.

BY N. SENN, M.D., PH.D.,

PROFESSOR OF PRACTICE OF SURGERY AND CLINICAL SURGERY IN RUSH MEDICAL COLLEGE; ATTENDING SURGEON TO THE PRESBYTERIAN AND EMERGENCY HOSPITALS; SURGEON IN CHARGE OF ST. JOSEPH'S HOSPITAL, CHICAGO, ILL.

(Continued from page 563.)

Author's Cases of Gastro-enterostomy for Malignant Disease of Pylorus.—The following cases of gastro-enterostomy were made by myself during the last three years. In all of them the indication for the operation was an advanced carcinoma of the pylorus. All of the patients were greatly emaciated, and in two of them the general debility was so great that the operation was not advised, and was performed only at the urgent request of the patients and their friends. The perforated decalcified bone plates were used in all operations in uniting the intestine with the stomach. At first dry plates were used, but after having met with two accidents, caused undoubtedly by the hygroscopic nature of the material, these were abandoned, and since using moist plates, kept in an antiseptic solution, no case of pressure necrosis has occurred.

I have made it a rule that the patient should abstain from taking food by the stomach for at least twenty-four hours prior to the operation, and rely during this time and a few days after the operation entirely upon rectal alimentation. The following description of the operation answers for all the cases.

The evening before the operation the stomach was washed out by the syphon-tube and again just before the anæsthetic was administered. For the last irrigation a five per cent. solution of salicylate of soda or Thiersch's solution was used. In all of these cases the incision was made through the median line and extended from near the ensiform cartilage to the umbilicus. The opening in the stomach was made parallel to the long axis of the organ and at least an inch and a half distant from the margin of the tumor. A continued suture of fine silk catgut was applied around the whole circumference of the opening, both for the purpose of arresting hemorrhage and preventing bulging of the mucous membrane. The opening in the intestine was made first and the plate introduced and sutures adjusted and the loop retained in the lower angle of the wound, covered by a warm compress. The large curvature of the stomach near the pyloric orifice was then drawn sufficiently forward into the wound to make the incision and introduce the plate. When everything was ready for adjustment, the parts around the visceral wound were carefully disinfected, dried, and the serous surface lightly scarified with an ordinary needle over a surface corresponding to the size of the plate; the visceral wounds were then brought opposite each other and a number of fine silk sutures, embracing only the serous and muscular coats, were applied behind the posterior margins of the plates and tied; the middle lower suture was now tied, while an assistant approximated the two openings; the end sutures were next tied, and lastly the anterior middle. The sutures were all cut short and ends buried. During the tying of the sutures it is necessary to exercise caution that the margins of the visceral wound are well embraced by the plates all around. As in these cases the weight of the intestine exerts considerable tension, I have taken the precaution to apply a superficial continuous suture anteriorly after tying the four sutures so as to approximate the serous surfaces over the anterior margins of the plates. The necessary preparations being made, with good assistance the operation can be finished in from twenty to thirty minutes. Usually on the third day small quantities of peptonized milk and beef-tea were given at short intervals and solid diet during the second week.

CASE I.—Male, aged sixty-five. Symptoms of pyloric stenosis for one year. Emaciated to a skeleton; œdema of legs; unable to retain food of any kind for more than a few hours. The patient was so anæmic and prostrated that he was only partially anæsthetized. During the operation the pulse became almost imperceptible, and brandy had to be administered subcutaneously, with lowering of head, and hot applications externally. An hour after the operation the pulse was stronger than before it was commenced. Rectal feeding; only slight rise in temperature on second day; no pain. On the third day small quantities of liquid food by the stomach. The heart's action gradually failed and the patient died of marasmus five days after the operation. The autopsy showed that the plates were still *in situ*, adhesions firm and opening patent. No peritonitis. In this case the carcinoma was circular and limited to the pylorus. Anastomosis just below the duodenum. The intense suffering had made the patient desperate, and although the nature of the disease and the probable outcome of the operation had been fully explained to him, he begged to have it done, with a perfect understanding that at best it would afford only temporary relief. I am quite confident that the operation did not shorten his life.

CASE II.—Male, aged forty seven. Duration of disease eighteen months; obstinate vomiting; great emaciation and œdema of legs. Contour of tumor could be readily mapped out by percussion and palpation. Tumor adherent to under surface of liver; enlargement of lymphatic glands. In this case the anastomosis was again made just below the duodenum. No untoward symptoms after operation. At the end of the first week solid food was allowed. No vomiting. At the end of the third week an abscess formed in the upper part of the healed incision, in the contents of which the plate ligatures were found. A gastric fistula formed, through which food escaped almost immediately after it was swallowed. This closed in less than two weeks, after which the patient improved in strength and gained in weight. He retained and digested all kinds of food. Improvement continued, so that he was able to walk short distances and to take long drives. At the end of three months after the operation he commenced to fail, and died two weeks later of progressive marasmus. Unfortunately no autopsy could be obtained.

CASE III.—Male, aged thirty-five. Symptoms of pyloric stenosis for six months. Tumor discovered four months ago, rapidly increasing in size. Considerable emaciation and cachectic appearance. Tumor involves nearly one-third of anterior wall of stomach and the entire pylorus. Glands of omentum infiltrated. The first loop of intestine which came within reach was united with the anterior wall of stomach in the usual manner. Sutures of abdominal wound removed on the eighth day. Until this time no untoward symptoms, although the patient had taken liquid food for several days. The day

following, obstinate vomiting occurred; the plates, very much softened and greatly reduced in size, were ejected. The stomach was repeatedly irrigated, but vomiting continued until the patient died, three weeks after the operation. Autopsy: Abdominal incision united throughout; omentum, stomach, and intestines adherent to abdominal incision. Anastomosis perfect at a point eight feet below pylorus. Intestine between pylorus and artificial opening enormously distended. As the opening was large enough to admit two fingers, it was difficult to understand what had caused the obstruction. The pyloric orifice was large enough to admit the tip of index-finger. Fluid could not be forced from the stomach into the bowel below the new opening. Injection through the duodenum was made with the same negative result. On close examination it was found that the intestine at the point of anastomosis, probably on account of the great length of the part between the stomach and the new opening, had become flexed at the point where it was attached to the stomach, and the two limbs were adherent to each other for four inches. This bending of the bowel had formed a spur, opposite to the opening in the stomach, by the apex of the concave side of the bowel, and this spur acted like a valve, closing the opening in the distal part of the bowel when water was injected into the stomach or duodenum.

This case taught me that it is unsafe to follow the advice given by Luecke and others, to seize the first presenting loop for the anastomosis, as by so doing it is possible to grasp a loop of intestine which corresponds to the lower portion of the small intestines, as in this case. If this is done, we not only exclude permanently too great a portion of the intestinal canal from the processes of digestion and absorption, but a similarly unfortunate mechanical difficulty at the new opening may be created, as has been described above.

Lauenstein recently reported a case of gastro-enterostomy where the autopsy revealed that the new opening was made near the ileo-cæcal region. In making a gastro-enterostomy it is important, for the reasons just cited, to follow the advice of Hahn or of the author and search for the duodenum, which, when found, can be readily recognized by its short and fixed attachments, and to make the new opening in the upper part of the jejunum as near as possible to the duodenum.

CASE IV.—Male, aged forty-three. Has complained of stomach difficulties for a year. During the last two months obstinate vomiting an hour or two after meals. Tumor as large as a child's fist; movable. Emaciation and marked anæmia; glandular infection behind the stomach. Anastomosis made just below the duodenum. Very little pain, and no other symptoms until the tenth day, when he vomited several times. Stomach washed out twice, four hours apart, and food by the stomach discontinued. No vomiting after this, and after two days a liquid diet ordered. At the end of the second week could digest all kinds of solid food, which caused no distress. On the thirteenth day fragments of both plates were found in one of the stools. Patient has gained in flesh, and after four weeks presented a great deal better appearance than before the operation. Patient survived the operation four months, and finally died of marasmus.

CASE V.—M. S——, German, laborer, aged thirty-eight, was admitted into Milwaukee Hospital, December 3, 1888. Carcinoma not hereditary in the family. In June last, patient first experienced a distressed feeling in the stomach a few hours after meals, attended by occasional attacks of vomiting, which occurred at intervals of several days and always afforded temporary relief. As the disease progressed the quantity of fluid ejected from the stomach became larger, and always contained fragments of food eaten several days before. The attacks of vomiting became more frequent and gastric digestion more impaired. About two months ago progressive emaciation set in, the patient has lost thirty-five pounds in weight since the beginning of his illness. The pain has been intermittent in character and occasionally quite severe. At the time of admission the patient was greatly emaciated, the skin dry, and of a dark, almost bronze, color. A well defined tumor is readily detected a little below the normal location of the pylorus. This tumor is quite movable and ascends and descends synchronously with the respiratory movements. Irrigation and insufflation indicate that the stomach is greatly distended. A large quantity of partially digested food is removed through the stomach-tube. As the patient's condition was becoming more insufferable from day to day, and the treatment pursued had afforded no relief, he was exceedingly anxious to avail himself of whatever benefit might follow an operation. As his strength had been failing very rapidly for the last two weeks, and as marked anæmia was present, I was fearful that the disease had resulted in almost complete obstruction of the pylorus, and had probably extended to one or more of the surrounding organs. Gastro enterostomy was performed December 16th. Immediately before the operation a subcutaneous injection of one-sixtieth of a grain of atropine was made, and he was given at the same time two ounces of whiskey in warm water per rectum. On opening the abdomen the dilated stomach presented itself at once in the wound. By pushing the organ toward the left side the pyloric portion was made accessible to inspection and palpation. A carcinoma extending from the pylorus to near the middle of the anterior wall of the stomach was readily mapped out. The disease was much more extensive than I had reason to believe from external examination before the abdomen was opened. Manual exploration revealed what I had suspected—extension of the carcinoma from the posterior surface of the stomach to the head of the pancreas, and numerous carcinomatous lymphatic glands behind the stomach and in the great omentum. As the anterior wall of the stomach was so extensively infiltrated it became necessary to make the incision for the communicating opening with the small intestine nearer the cardiac than the pyloric orifice. The part of the intestine selected was the junction of the duodenum with the jejunum. Duration of operation about thirty minutes.

The patient recovered satisfactorily from the immediate effects of the operation, and although he vomited twice during the evening the pulse and temperature were noted as normal the following day. On the second day a slight tympanites developed, at the same time the patient complained of pain at the site of operation. Rectal injections were relied upon exclusively in stimulating and supporting the patient. Although the temperature remained normal until the morning of the fifth day after the operation, tympanites and pain remained as conspicuous symptoms, and the pulse became more rapid and feeble. The bronzed color of the skin, so marked before the operation, assumed a deeper hue from day to day. On the morning of the fifth day the thermometer registered 97° F. under the tongue, but toward evening the temperature increased to 101° F. The next morning the temperature reached 104° F., and at noon the patient expired. The autopsy revealed a minute perforation at the upper border of the approximation-plates Dry plates were used in this case, and these had become much softened and thickened, and remained *in situ*. Adhesions between stomach and intestine quite firm. Peritonitis limited to the upper portion of the abdomen. Nearly half of the stomach on pyloric side involved by the carcinoma. Pyloric obstruction almost complete. Pancreas extensively infiltrated. As only a few auxiliary superficial sutures were used in this case it appears probable to me that during the violent attacks of vomiting, soon after the operation, a limited separation of the approximated viscera occurred, and that the peritonitis, which was the immediate cause of death, was due to this cause.

CASE VI.—A farmer, aged sixty-nine, came under my observation at the Milwaukee Hospital, March 28, 1888. No hereditary predisposition to carcinoma or tuberculosis in his family. He was an industrious man, and in pos-

session of good health until March, 1882, when he had an attack of dyspnœa, which he attributed to fatty degeneration of the heart. A similar attack occurred during the following month, which this time was believed to have been caused by dyspepsia. From this time on he experienced, at different times, weight and a sensation of fulness in the stomach an hour or two after meals. In January, 1889, he first discovered a tumor in the region of the stomach; at the same time digestion became more impaired, so that he could eat and retain only the lightest articles of food. His general health failed rapidly, and before he entered the hospital his body weight was reduced from one hundred and fifty to one hundred and fifteen pounds. For the last ten days stomach-feeding had to be suspended almost completely on account of the pain and distress that followed the eating of small quantities of the blandest kinds of food. Patient is very anæmic, ankles œdematous, pulse 80 to 90 per minute, and very soft and compressible. Tumor in pyloric region about the size of a small orange; movable. After inflation the outline of the large curvature of the stomach could be seen and felt two inches below the umbilicus, while the tumor did not change its relative position to the anterior abdominal wall. Although the patient and friends were fully informed in reference to the probable outcome of an operation, in view of the enfeebled condition of the patient, gastro-enterostomy was performed at their urgent request, March 31, 1889. Elaborate preparations were made for the operation, for the purpose of preventing collapse. Atropia and whiskey were administered as in the preceding case. The abdomen was opened as usual in the median line, and by retracting the margin of the wound on the right side, the carcinomatous pylorus was brought at once into the wound. The disease had passed beyond the serous coat, and at some points fungous masses could be seen and felt on the surface of the tumor. Adhesions had formed between the growth and the under surface of the liver, and the head of the pancreas appeared to be incorporated in the cancerous mass. The disease involved about four inches of the pyloric end of the stomach. Numerous carcinomatous glands in the great omentum and behind the stomach. An anastomotic opening was established between the stomach, about two inches from the border of the tumor, and near the great curvature and the small intestine, about three feet below the pylorus, by the aid of a large pair of soft plates of decalcified bone. The serous surfaces between the plates were freely scarified, and the action of the plates enforced by superficial interrupted sutures posteriorly, and the continued suture along the anterior border of the plates. Although the operation did not require more than thirty minutes, toward its close the patient's condition became critical—pulse almost imperceptible, profuse clammy perspiration, and pupils widely dilated. Under the influence of stimulants administered subcutaneously and per rectum, and the external application of heat, the pulse improved temporarily, but collapse again appeared, and the patient died two hours after completion of the operation.

Case VII.—German laborer, aged thirty-two, was admitted into Milwaukee Hospital, April 8, 1889. His digestion had always been good until nine months ago, when he first experienced pain in the region of the stomach, especially an hour or two after a hearty meal. Three months later a swelling was detected to the left of the median line, and a little above the level of the umbilicus. At this time vomiting commenced at intervals of a few days, and the patient states that the ejected material sometimes had the appearance of coffee-grounds. During the last three months emaciation has been alarmingly rapid. At the time of admission a tumor was found about the junction of the left hypochondriac with the epigastric regions, and two inches above the umbilicus. The tumor could be moved from side to side, and ascended and descended synchronously with the respiratory movements. Although the tumor apparently involved the cardiac portion of the stomach, the clinical symptoms pointed to obstructive disease of the pylorus. Its anatomical location was definitely demonstrated by insufflation. During the inflation the tumor changed its position, and when the stomach was well distended it could be distinctly felt and mapped out by percussion at a point a little below the normal situation of the pylorus, while the large curvature of the stomach could be plainly outlined about three inches below the level of the umbilicus. It was evident that the organ had assumed nearly a vertical position, owing to the long-standing pyloric obstruction and the great dilatation resulting from it. During the preliminary treatment it became evident that the carcinoma had ulcerated, as on several occasions traces of blood were found in the fluid which returned from the stomach. Gastro-enterostomy was performed by the aid of soft decalcified bone-plates, April 10, 1889. The tumor was found to occupy the pyloric region, and had encroached upon the stomach to the extent of several inches. Although the tumor was very large—the size of an adult's fist—it was freely movable and not adherent to any of the surrounding organs; but the lymphatic glands behind it, and in the great omentum, were extensively infiltrated. On account of the extent of the disease the anastomotic opening in the stomach had to be made nearer the cardiac than the pyloric end. The part of intestine selected was the jejunum, about twelve inches below its junction with the duodenum. Superficial sutures all around the borders of the plates. No untoward symptoms after the operation. Stomach-feeding was resumed the fourth day after the operation. The intestinal plate, partially disintegrated, but perfect in outline, was passed per rectum on the tenth day. At the end of the first week the patient developed a sharp appetite, ate and digested well a liberal diet, and gained rapidly in strength, and his appearance had undergone a remarkable change. Action of the bowels normal. External wound healed by primary union throughout. In the evening of the fourteenth day after the operation he complained of nausea and a sense of fulness in the stomach, and became suddenly extremely anæmic, and died within a few hours. Although no autopsy was allowed, the symptoms which preceded the sudden fatal termination left but little doubt that death was caused by profuse hemorrhage into the stomach from the ulcerating carcinoma. This view of the case is supported by the fact that soon after the patient complained of nausea percussion revealed an extensive area of absolute dulness over the region of the stomach.

Case VIII.—Brewer's wife, forty-five years old, German, with no history of malignant disease in her family, and previously in good health, had been the subject of serious disturbances of gastric digestion for about a year. During this time she has lost more than fifty pounds in weight. Vomiting appeared about three months ago, at intervals of several days, and always copious. No blood in the material ejected. I made an examination, February 22, 1890, and advised a gastro-enterostomy, as the symptoms then clearly indicated almost complete closure of the pyloric orifice of the stomach. A well-defined tumor was found near the median line, a little above the umbilicus. The tumor could be displaced readily to either side, but always returned spontaneously to its former location. Irrigation showed that the stomach was greatly dilated, and insufflation demonstrated that the tumor occupied the pyloric extremity. The presence of ulceration was determined by microscopic examination of the contents of the stomach, which revealed numerous blood-corpuscles unchanged by the gastric secretion.

The patient's general health was such at this time that hope could be entertained that she would survive the immediate effects of the operation, and that life might be prolonged by establishing a new outlet from the stomach into the intestine. The operation was declined. The patient returned four weeks later, anxious to submit to any treatment that might offer a chance to check the rapid progress of the disease. Her general

condition had undergone a great change for the worse during this time. Gastric digestion had become nearly suspended, to which were added great loss of strength and progressive marasmus. The tumor had materially increased in size, but remained movable; the stomach had become more dilated, vomiting occurred at longer intervals, and the quantity ejected was correspondingly larger. As the patient's only hope was grounded on the expectation of having an operation performed, I yielded unwillingly to her urgent request, and performed gastro-enterostomy, March 22, 1890. Stomach was washed out after the patient was under the influence of the anæsthetic, as she absolutely refused to have it done before. The tumor presented itself at the middle of the median incision as soon as the abdomen was opened. The serous surface was perforated at different points by the carcinoma, and the affected part of the stomach was found adherent to different organs by neoplastic adhesions. On the posterior surface the tumor was firmly connected with the pancreas. A large portion of the latter organ appeared to be involved by the disease, a circumstance which rendered it very difficult to bring the stomach sufficiently forward into the wound for direct operative treatment. As the disease had extended along the great curvature of the stomach farther than along the upper border, the incision was made nearer the small curvature than usual, in order to make the opening at a safe distance from the carcinoma. The intestine was opened near the junction of the jejunum with the duodenum, and the two visceral wounds were approximated in the usual manner by two large decalcified bone plates and a row of superficial sutures. The intestine was united with the stomach in the position advocated by Rockwitz. The plates used in this case were dry, and had been kept in this condition for some time.

Stimulants and food were administered exclusively by rectal enemata.

The operation was not followed by any symptoms of shock, but the patient made repeated attempts at vomiting before she fully recovered from the effects of the anæsthetic. March 24th, forty hours after the operation, both plates, held together by the four sutures, were ejected during a violent attack of vomiting. Both plates were softened, and at least twice as thick as when they were inserted in the dried state. Although the serous surfaces interposed between the plates were freely scarified before the viscera were approximated and a row of superficial sutures was placed all around the borders of the plates, I was fearful that the adhesions between the stomach and intestine had given way during the violent fit of vomiting which brought up the plates, and that the patient would soon succumb to perforative peritonitis. I was astonished the next day to find the general condition of the patient much improved. She was now allowed liquid food by the stomach, which she retained and digested without any difficulty, and her strength began to improve materially, when, on March 26th, two days after the occurrence of this accident, she was suddenly attacked with typical croupous pneumonia of the lower lobe of the left lung, which proved fatal April 3d, seven days after the initial chill. The external incision healed by primary union, the bowels responded promptly to mild cathartics, and after the ejection of the plates the symptoms of obstruction were entirely relieved. It is well to mention the fact that at the time the operation was made "la grippe" was epidemic in the city and a number of the patients in the hospital were affected by it.

I am convinced that the increased thickness of the plates, owing to the absorption of fluids from the stomach and intestine, caused pressure gangrene of all the tissues interposed between them, and that perforative peritonitis was only prevented by the superficial sutures which secured adhesions between the stomach and intestine around the area of gangrene. This case taught me an important lesson, and since then I have abandoned the use of hygroscopic material for the plates.

Case IX.—Male, aged seventy-one, with a good family history, consulted his family physician August 11, 1889. At this time he was well nourished, body weight 160 pounds, complexion florid; pulse, respiration, and temperature normal. Appetite good, but complains of severe pain in the epigastrium and sensation of weakness in the back. After meals has a feeling of fulness in the stomach and eructations of gas. In the absence of positive physical signs his affection was regarded as a chronic gastric catarrh due to pyloric stenosis from unknown cause.

January 15, 1890, the patient was again examined. He has had for some time persistent vomiting three or four hours after meals. If vomiting did not occur for several days, enormous quantities of a brownish, sour fluid, containing undigested fragments of food, were ejected by repeated efforts. Vomiting, preceded and accompanied by sensation of heat and burning in the pharynx. Sleeps well when not disturbed by vomiting. He had lost a great deal in weight; skin, pale, dry, and scaly; tongue, dry and heavily coated in the middle, edges red and moist. The copious panniculus adiposus had almost completely disappeared. A tumor the size of a child's fist could now be readily detected to the right of the median line and a little below the normal situation of the pylorus. The tumor was movable, and could be displaced to the left of the median line. Irrigation of the stomach revealed enormous dilatation, and insufflation demonstrated that the tumor involved the pyloric extremity. The family were informed of the true nature of the affection, but the patient was told that he had an obstruction at the pyloric orifice which would require an operation in order to obtain the desired relief. The patient was subjected to proper preparatory treatment, after which gastro-enterostomy was performed at the Milwaukee Hospital, January 31, 1890. The disease was found to involve about three inches of the pyloric end of the stomach, and the omental and retro-peritoneal glands were extensively infiltrated. Moist, large, decalcified bone-plates were used. The incision in the stomach was made near the great curvature and about two inches from the margin of the tumor. The upper portion of the small intestine was placed in Rockwitz's position, and after incision was joined to the stomach in the usual manner by approximation-plates and superficial sutures. Although the patient was very anæmic and greatly emaciated, the operation produced no shock or any other untoward symptoms. Stomach-feeding was commenced on the third day, and after the expiration of a week a liberal diet of solid food was allowed. The external incision healed by primary union, and the sutures were removed on the ninth day. The symptoms of obstruction disappeared promptly after the operation, and digestion was fairly well performed. The patient left the hospital, February 13th, in excellent condition, fully confident that the operation had secured for him permanent relief, and that it would add many years to his life. A month later he reported that he had gained eight pounds in weight, and that he could eat all kinds of food without causing pain or discomfort after eating. He conducted his business for eight or nine months, made many distant journeys, and enjoyed life as well as the average man in perfect health. A ventral hernia developed at the site of the external incision, but did not cause much inconvenience. The patient lived for twenty months after the operation, and finally died of marasmus. During the last few weeks digestion was impaired and symptoms of obstruction again appeared, but were not as distressing as before the operation. There can be but little doubt that at this time the carcinoma reached the new pylorus and partially occluded its lumen. It was evident to all who witnessed the operation that, judging from the general condition of the patient and the extent of the disease, life could not have been prolonged for more than a few weeks without surgical intervention.

CASE X.—Farmer, aged thirty-seven, was admitted into the Milwaukee Hospital, December 27, 1890. During the last six years he has suffered repeatedly from attacks of indigestion. For the last two months he has had a severe pain in the stomach, which was always aggravated after meals, and was only partially relieved by vomiting. Vomiting has occurred during the same time regularly whenever solid food was taken. As the vomiting came on several hours after eating, pyloric obstruction was suspected some time ago, but considering the age of the patient it was believed that it was of a non-malignant nature. The patient lost twenty pounds in weight in a few weeks. Examination revealed a hard, irregular tumor to the right of the median line, and half-way between the crest of the ilium and the costal arch. The tumor was not affected by the respiratory movements, and on palpation appeared to be firmly fixed by adhesions to surrounding organs, neither was its location changed by inflation. During inflation a tympanitic area could be mapped out on the left side of the tumor, extending far below the level of the umbilicus. Inspection and palpation through the median incision revealed a diffuse carcinoma of the pylorus, which had encroached upon the anterior wall of the stomach to the extent of at least four inches, and had extended to the under-surface of the liver and the pancreas. Posteriorly the tumor had evidently reached the retro-peritoneal tissue, as it formed one common mass with the enlarged retro-peritoneal lymphatic glands and pancreas. In the omentum numerous glands, varying in size from a split pea to an almond, were found. Considering the time since symptoms of obstruction first appeared it was evident that in this case the tumor developed very rapidly, and gave rise to early glandular infection and extension to surrounding organs and tissues by contiguity. Through the incision in the stomach digital exploration showed a soft cancerous mass, occluding almost completely the pyloric orifice. Gastro-enterostomy was made by the aid of large, moist, bone plates, with the intestine in Rockwitz's position. Although unnecessary handling of the abdominal organs was carefully avoided, and the operation was completed in less than half an hour, profound shock set in, which, in spite of active stimulation, proved fatal five hours after operation. At the autopsy, the abdominal incision was found agglutinated, and omentum adherent to the wound. Although the stomach was washed out thoroughly just before the anæsthetic was administered, and was found empty when incised, it contained a large quantity of a viscid fluid which was retained probably on account of complete suspension of muscular contraction after the operation, as the anastomotic opening was patent, and fluid could be forced through it in a large stream. Only a very small stream could be forced through the pylorus, showing that its lumen was almost completely obliterated by the ulcerating carcinoma. Approximation of serous surfaces was so perfect that under considerable pressure no leakage could be produced. Nearly half of the pyloric portion of the stomach was infiltrated. The extension of the disease to surrounding organs, ascertained during the operation, was verified by the autopsy. The result of my observations has been that when young persons are the subject of carcinoma of the stomach, the disease pursues a more rapid course and results early in extension to other organs and diffuse infiltration of the retro-peritoneal and omental lymphatic glands.

CASE XI.—German, farmer, aged forty-five, was admitted into Milwaukee Hospital, January 21, 1891. Maternal uncle died of carcinoma of the stomach at the age of fifty; patient has always been in robust health until six months ago when at intervals of several days he began to vomit about midnight. A month later a burning pain appeared in epigastrium, radiating toward the right side, which was always relieved by vomiting. The vomiting became more frequent, and the amount of fluid ejected more copious in the course of time. During the last few weeks the simplest articles of food have remained undigested in the stomach, and could be identified in the large quantities of dark viscid fluid thrown up daily by vomiting. Within a few weeks the patient has lost thirty-five pounds in weight. Lavage of the stomach always afforded temporary relief. Patient presents an anæmic and marked cachectic appearance. No tumor can be felt in the pyloric region, either before, during, or after insufflation. Insufflation, however, reveals enormous dilatation of the stomach. The history of the case and the leading symptoms clearly indicated the existence of pyloric stenosis. The general condition and the rapidly increasing stenosis left but little doubt as to the malignant nature of the obstruction. The patient was exceedingly anxious to avail himself at this stage of the doubtful benefits that might be derived by surgical intervention, and at his urgent request gastro-enterostomy was performed the day after he entered the hospital. Large moist plates were used, and the intestine, at a point about thirty inches below the pylorus was attached to the stomach in Rockwitz's position. No circumscribed tumor was found, but several inches of the pyloric end of the stomach were diffusely infiltrated and the walls much thickened. Diffuse infiltration had also taken place toward the duodenum, even the unaffected portion of the stomach, which was considerably dilated, presented an œdematous appearance; numerous lymphatic glands behind the tumor and in the great omentum, varying in size from a hemp-seed to a large pea. At the close of the operation, which was finished in less than half an hour, symptoms of shock appeared. The patient rallied under the judicious use of stimulants and the external application of dry heat. No untoward symptoms after the patient rallied from the immediate effects of the operation. No vomiting. Bowels moved freely on the second day. On the fourth day stomach-feeding was resumed, and the food administered caused no distress. Sutures were removed on the ninth day, at which time the incision was found healed. The patient appeared to improve for a week, when, in spite of a liberal allowance of easily digestible food, which was retained and digested, his strength gradually failed and he died of simple exhaustion, February 9th, eighteen days after the operation. It is apparent that in this case the operation proved a surgical success, but that it was performed too late to add much to the duration of the patient's life.

CASE XII.—Laborer, thirty-five years of age, suffering from advanced carcinoma of the pylorus, came to the Milwaukee Hospital, March 28, 1891, for the purpose of subjecting himself to surgical treatment for pyloric carcinoma. He has always been in good health until about nine months ago, when he began to have a feeling of heaviness and oppression in the stomach a few hours after meals, followed by increasing pain, especially toward evening, which was only partially relieved by vomiting. Vomiting occurred regularly every second or third day. The gastric distress and vomiting gradually increased in intensity and frequency, and he commenced to lose flesh rapidly. At the present time he is unable to retain and digest any solid food, and in consequence of long-continued defective nutrition presents an exceedingly marantic appearance. A round, smooth, movable tumor in the pyloric region was easily detected and recognized as a carcinoma of the pylorus. The short duration of the disease and the great mobility of the tumor made me hopeful that I would be able to make a pylorectomy, and the necessary preparations were made for this operation.

Operation: March 30, 1891. On opening the abdomen the tumor was found free, and limited to organ first affected. Examination of the space behind the tumor revealed numerous enlarged lymphatic glands, a condition which induced me to abandon the intention of removing the carcinomatous pylorus, and to substitute for this operation a gastro-enterostomy. The operation was completed in twenty-five minutes. The upper portion of the small intestine was placed in Rockwitz's position before the anastomosis was made. The patient recovered from the operation without a single untoward

symptom, and after the fourth day, when stomach-feeding was commenced, gastric digestion was performed in a satisfactory manner. The external incision healed by primary intention, and the sutures were removed on the ninth day. The patient left the hospital at the end of the second week, and from subsequent information received I learned that he lived three months in comparative comfort, and finally died of marasmus. The anastomotic opening in this case remained patent, and served as an efficient outlet for the chyme, as little or no food could pass through the obstructed carcinomatous pylorus.

Case XIII.—Male, aged forty four, German, carpenter by occupation; was sent to the Surgical Clinic of Rush Medical College for diagnosis and opinion concerning a chronic affection of the stomach six weeks prior to the operation. He stated that for a number of years he had been the subject of frequent attacks of indigestion and that he had been unable to eat heavy articles of food without bringing on one of these attacks. During the last year the gastric disturbances have come on at shorter intervals and with greater intensity. Three months ago he first commenced vomiting daily a few hours after the principal meal, and this symptom has recurred at regular intervals ever since. During this time he has lost a great deal of flesh and strength, and even at the time of the first examination he presented a decidedly cachectic appearance. In the region normally occupied by the pylorus, but a little lower down, a hard nodular tumor can be distinctly felt. Irrigation and insufflation of the stomach prove that the organ is greatly distended. During the insufflation the large curvature of the stomach can be outlined distinctly about four inches below the umbilicus; at the same time the tumor is forced a little to the right without changing its relative position to the anterior abdominal wall. The diagnosis made at that time was carcinoma of the pylorus, causing obstruction and dilatation of the stomach. As at this time gastric digestion was nearly suspended, and the patient had already become greatly debilitated from this cause, a gastro-enterostomy was advised.

Nothing was seen or heard of from the patient until five weeks later, when he again made his appearance in the clinic and begged to have the operation performed. In the meantime he had become emaciated to a skeleton. Eyes were sunken in their sockets, cornea lustreless, skin wrinkled and of a dark bronze hue, and ankles œdematous. The tumor had increased in size and the dilatation of the stomach had reached such an extent that the organ was unable to expel its contents by vomiting. The large curvature nearly reached to the pubes. A large quantity of a dark viscid fluid was evacuated from the stomach through an elastic siphon-tube, which afforded temporary relief. The rapid extension of the local disease and the general critical condition of the patient induced me to advise against an operation, as I was almost convinced that the patient could not survive the immediate effects of the anæsthetic and the shock produced by an operation even of very short duration. The patient would not listen to my objections, and insisted that the operation should be performed, regardless of consequences. I finally yielded to his earnest pleadings, and operated on him before the class, August 21, 1891. For two days prior to the operation the stomach was washed out twice daily, and during this time the patient's strength was supported by rectal alimentation consisting of injections of peptonized milk, beef-tea, and eggs prepared with sodic chloride. A subcutaneous injection of one-sixtieth of a grain of atropia and a rectal enema of two ounces of whiskey in a teacupful of warm water were given in order to guard against shock during and after the operation. Owing to the feebleness of the heart's action ether was used as an anæsthetic in preference to chloroform. The carcinoma extended from the pylorus to the junction of the outer with the middle third of the stomach. The tumor was firmly attached by neoplastic adhesions to the surrounding organs. Omental and retro-peritoneal glands extensively infiltrated. The incision in the stomach was made near the centre of the organ, and with it was united a similar incision of the small intestine near the junction of the jejunum with the duodenum, the intestine being placed in Rockwitz's position before the approximation with large decalcified bone-plates was made. Scarification of the serous surfaces and suturing along the outer border of the plates were done in the same manner as in the preceding cases. The operation occupied less than half an hour, yet near its completion the pulse became very rapid and feeble, the extremities cold, and the pupils widely dilated. In spite of active stimulation by subcutaneous and rectal injections, and the external application of dry heat, the patient did not react from the immediate effects of the operation and died eight hours later.

Table of Thirteen Gastro-enterostomies for Malignant Pyloric Obstructions.

Case.	Sex.	Age.	Duration of Disease.	Result.	Remarks.
1	Male.	67	1 year.	Recovered.	Died five days after operation, of exhaustion.
2	"	47	18 months.	"	Improved for several weeks; died of marasmus three months after operation.
3	"	35	6 "	Died.	Immediate cause of death, intestinal obstruction at site of operation: death three weeks after operation.
4	"	43	1 year.	Recovered.	Improved for several weeks; died of marasmus four months after operation.
5	"	38	6 months.	Died.	Immediate cause of death, perforative peritonitis.
6	"	69	1 year.	"	Cause of death, shock, two hours after operation.
7	"	32	9 months.	Recovered.	Death from hemorrhage into the stomach, from ulcerating carcinoma, nine days after operation.
8	Female.	45	1 year.	"	Died twelve days after operation, from croupous pneumonia.
9	Male.	71	16 months.	"	Improved for several months, and died of marasmus twenty months after operation.
10	"	37	4 "	Died.	Cause of death, shock, five hours after operation.
11	"	45	6 "	Recovered.	Died eighteen days after operation: immediate cause of death, marasmus.
12	"	35	9 "	"	Improved for several weeks, and died of marasmus three months after operation.
13	"	44	1 year.	Died.	Died eight hours after operation; immediate cause of death, shock.

Remarks.—Adding the 2 pyloro-plastic operations to the 13 gastro-enterostomies we have 15 operations on the stomach for malignant and non-malignant stenosis of the pylorus, of which number 10 recovered and 5 died, a mortality of 33.3 per cent. Of the 13 operations for carcinomatous pyloric obstruction on as many patients 12 were males and 1 female. The youngest patient was thirty two years of age, the oldest seventy-one; average age, forty-six years and ten months. The duration of the disease could only be ascertained approximately, eighteen months being the longest and four months the shortest period intervening between the first manifestation of symptoms and the time of operation; average duration, ten months and ten days. In most of the cases vague symptoms of gastric derangement preceded the actual development of symptoms pointing to pyloric obstruction for several years, months, or weeks. In all of the cases the existence of pyloric obstruction at the time of operation was evident from the complexus of symptoms present at the time, the results of physical examination, and, in most instances, verified by digital exploration of the pylorus during the operation. In only one case did I fail in detecting enlarged lymphatic glands in the vicinity of the carcinoma, and that was the first case reported, in which I found an annular malignant stricture without involvement of the serous coat and adjacent lymphatic glands. This would have been a proper case for pylorectomy had the patient's general condition warranted such an operation. In all of the remaining cases the carcinoma was

more extensive, and the lymphatic glands in its vicinity infiltrated, and in many of the cases the growth was connected with one or more of the surrounding organs by neoplastic adhesions. In all of these cases the local conditions were of such a nature that a radical operation by pylorectomy was out of the question, irrespective of the general condition of the patients. Analysis of the immediate and remote results of the thirteen cases of gastro-enterostomy shows the following: Eight of the patients survived the immediate effects of the operation and five died. Among the recoveries are included all cases in which the immediate cause of death could not be attributed to the operation. In Case I. death occurred five days after operation, from exhaustion. Nothing occurred that would tend to show that the operation shortened life. The patient was extremely anæmic and emaciated at the time of operation, but he rallied from its immediate effects promptly; the symptoms of obstruction were relieved but he gradually sank, and died five days later from simple exhaustion, due to the disease and its secondary consequences, and not to the operation. In two other cases reported as recoveries death occurred in one, twelve days after operation, from croupous pneumonia, in the other, on the ninth day, from hemorrhage into the stomach from the ulcerating carcinoma; in both instances the external incision had healed, the symptoms of obstruction were removed, and gastric digestion was partially restored. The remaining five cases that recovered lived, respectively, one, eighteen days; two, three months; one, four months; and one, twenty months after the operation, and finally died of marasmus. The most remarkable of these was Case IX., the oldest patient on the list, who had been suffering from pyloric carcinoma for sixteen months, and who at the time of operation certainly could not have lived for more than a few weeks without surgical intervention. This patient recovered without a single untoward symptom, lost the cachectic appearance, gained a number of pounds in weight, resumed and conducted his business for eight months, and died of marasmus twenty months after operation. Billroth makes the statement that in none of his cases of gastro-enterostomy for malignant pyloric obstruction was life prolonged for more than a year after the operation. Two of my patients lived three, and one four months after operation, and in none of them did symptoms of pyloric obstruction appear after the operation. In Case III. an autopsy was made. The dilatation of the stomach had disappeared, the anastomotic opening was large enough to admit the tips of two fingers, and was lined throughout by mucous membrane. In the five fatal cases death occurred in from two hours to three weeks after operation. In three of these the patients succumbed to the immediate effects of the operation in two, five, and eight hours. One died of perforative peritonitis on the fifth day, and in one death was caused by intestinal obstruction three weeks after operation. In the last case the intestine was attached to the stomach at a point eight feet below the pylorus. At a point nearly in the centre of the opening in the bowel a sharp flexion was found at the autopsy, and in consequence of this flexion the mesenteric portion of the bowel formed a spur, which directed the contents of the stomach into the portion of bowel on the proximal side of the anastomotic opening. In view of the extent of the local disease, the gravity of the secondary lesions due to long-standing pyloric obstruction, and the serious impairment of the general health present in all the cases, the immediate and remote results as given above must be regarded as satisfactory.

The important lesson to be drawn from these cases is not to postpone operative treatment for pyloric obstruction until the patient's strength is so much reduced that death would be likely to ensue from the immediate effects of an operation of even very short duration. In a number of the cases reported above, an operation was advised in time, but was refused until the patient had become convinced by sad experience that it offered the only chance of relief; but in the meantime the local and general conditions had become so much aggravated that the prospects of success were reduced to a minimum. More than one of the patients, when he had reached this desperate condition, threatened to put an end to his sufferings by suicide in case an operation was refused, and this determination more than once turned the scales when I hesitated to carry into effect their request. Patients suffering from pyloric stenosis must be informed in time of the inefficacy of all methods of treatment short of removal or rendering harmless the obstruction by operative treatment. The results of gastro-enterostomy for malignant stenosis of the pylorus will improve and become more satisfactory as soon as the profession will sanction early surgical interference and patients can be made to submit to it as soon as a positive diagnosis can be made.

In conclusion I beg to submit the following propositions for your further consideration and discussion:

1. Pyloroplasty, as devised by Heineke-Mikulicz, is the safest and most efficient operation for cicatricial stenosis of the pylorus.

2. Pylorectomy in the treatment of carcinoma of the pylorus is a justifiable procedure when the disease is limited to the organ primarily effected and the patient's general condition furnishes no contra-indication.

3. Gastro-enterostomy by the aid of large, moist, perforated plates of decalcified bone should be resorted to in the treatment of malignant stenosis of the pylorus as soon as a positive diagnosis can be made, and a radical operation is contra-indicated by local or general conditions of the patient.

532 Dearborn Avenue.

INJURIES CAUSED BY THE CONCUSSION PRODUCED BY EXPLOSION OF TORPEDOES BENEATH IRON CLAD AND OTHER VESSELS OF WAR IN MOBILE BAY, 1865.

By J. RUFUS TRYON, A.M., M.D.,

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During my professional career of nearly thirty years, as a medical officer in the United States Navy, nothing has been more interesting than a series of cases, disabled by complicated injuries, occasioned by the concussion caused by the explosion of torpedoes beneath iron-clad and other vessels of war. While the effects of concussion produced by ordinary causes are familiar to every one in general practice, there is very little in surgical history relating to the many forms of injury that may accompany shock caused by the force referred to. Since the War of the Rebellion the torpedo, as a weapon of warfare in naval engagements, has been so improved in construction and management that its use is indispensable both for attack and defence, and in the naval battles of the future most medical officers of the navy will be brought in contact with the class of injuries under consideration. For this reason I have thought it might be of professional interest to submit the few authentic notes I have in my possession on the subject. Every case cited came under my immediate charge during the war, and the history of each one embraces facts taken from my note-book at that time, official records on file in the Bureau of Medicine and Surgery, Navy Department, "Surgical History of the Rebellion," and Pension Office, Washington, D. C.

In the second attack on Mobile, during the months of March and April, 1865, there were twenty killed and thirty-two wounded by concussion produced by the explosion of torpedoes beneath the following vessels:

Vessel.	Rate.	Class.	Killed.	Wounded.	Remarks.
Osage	4th	Ironclad	5	11	2 severely wounded.
Sciota	4th	Gunboat	6	6	1 severely wounded.
Rodolph	4th	Tinclad	4	11	4 severely wounded.
Ida	4th	Screw tug	3	2	
Althea	4th	Screw tug	2	2	2 severely wounded.

Among the wounded temporarily cared for on board the Hospital-ship in the bay of Mobile, and afterward transferred to the United States Hospital, Pensacola, Fla., there were four cases of dislocation of the tibia backward, one complicated with a compound comminuted fracture of both bones of same leg; one case of compound comminuted fracture of both bones of right leg; one case of compound comminuted fracture of left forearm; one case of fracture of dorsal vertebra; one case of fracture of fibula; one of concussio cerebri, and two of subluxation—one of ankle and one of wrist.

All of these injuries were complicated with severe contusions, and the patients, in the first instance, labored under all the serious symptoms consequent upon severe shock.

Every one conversant with the anatomy of the knee-joint and bony structure of the body will understand the strength and extent of a force that must be exerted, and unexpectedly applied, to produce a series of injuries so different from those usually caused on shipboard during the ordinary naval engagement, or sustained by other causes. To give an example of the force in question, I cite the case related to me by the Fleet Surgeon on board the Rebel ram Tennessee, during her fight, at close quarters, in the first engagement in Mobile Bay, August 4, 1864. A man belonging to one of the gun's crew on board rested for a moment against the inclined side of the iron-clad, near the gun where he was stationed, when a shot at short range struck the vessel's side near the place where he was partially bracing himself, producing a concussion so great in effect that in an instant he was literally "blown to atoms," and the contused and mangled portions of his body scattered in every direction over the deck.

Case I. *Dislocation of Left Tibia Backward.*— William H——, ordinary seaman, aged twenty-seven, native of Pennsylvania, constitution strong, on March 29, 1865, on board the United States Steamship Osage, received the above injury, by concussion produced by explosion of a torpedo beneath that vessel. The injury was accompanied with severe contusions both of right and left thigh, and left leg. When patient was admitted to Naval Hospital, Pensacola, Fla., two days after injury, the dislocation had been reduced and temporary dressings applied. Treatment in hospital consisted in moulding pasteboard splints to limb, keeping extremities at perfect rest on a double inclined plane, and application of water-dressings. With all this care, however, suppuration of tissues of thigh and leg followed, necessitating deep incisions into the parts for the free escape of pus. Patient became emaciated to a great degree by the profuse discharge and irritative fever, and was confined to bed in the position described till July 1, 1865. July 8th, H—— was sent North by Medical Survey, and remained under treatment at Naval Hospital, New York, till November 25, 1865, when he was discharged from the service disabled, but general health much improved.

Case II. *Dislocation of Left Tibia, with Compound Comminuted Fracture of Tibia and Fibula near Ankle-joint of same Leg.*—E. R——, a landsman (colored), aged twenty-four, while attached to the United States Steamship Rodolph, was wounded in the left leg by concussion produced by the explosion of a torpedo beneath that vessel, in Mobile Bay, April 1, 1865. The injury involved a dislocation of the tibia at the knee, and a compound comminuted fracture of the fibula and tibia near the ankle of the same leg. The fracture was impacted as well as comminuted. When he was admitted to the Naval Hospital at Pensacola, three days afterward, the dislocation had been reduced; but on examination (the patient being under the influence of chloroform) both the tibia and fibula were found to be severely injured near the ankle, the bones protruding from the wound, and large and small fragments being easily felt by introducing the finger. It was then deemed useless to attempt to save the limb, and I amputated the leg about four inches above the injury. The dislocated bone was kept in position by pasteboard splints, and the greatest care was used in dressing the stump. The case progressed favorably until April 22d, when the patient complained of headache and nausea, followed in a short time by a severe chill and high fever. Pyæmia being apprehended, the stump, though nearly healed at the time, was carefully examined, and fluctuation was detected at the under portion near the cicatrix. After the escape of pus by free incision into this part, the patient, who was a man of strong constitution, over six feet high and stout in proportion, improved rapidly under the administration of quinine, and was soon able to be transferred to New York, where he entered the Naval Hospital on June 15th. He was discharged from service November 24, 1865, with a good stump, being able to walk easily and well on an artificial limb, and suffering no weakness of the knee consequent upon the dislocation. I contributed the notes in this case to the "Surgical History of the War of the Rebellion," and also forwarded the amputated bones of the leg, which constitute Specimen 5,662 of the Surgical Section of the Museum, and exhibit the seat of the injury, including a longitudinal fissure of the tibia about three inches in length. The man is a pensioner, and was paid September 4, 1880. He reported the stump as continuing in "good and healthy condition." It is an interesting fact that by Government record I have been able to trace this case for fifteen years after receipt of injury.

Case III. *Dislocation of Right Tibia Backward.*—E W——, first-class boy (negro), aged seventeen, constitution strong, received the above injury, April 1, 1865, on board United States Steamship Rodolph, by concussion produced by explosion of torpedo beneath said vessel. The dislocation was reduced soon after receipt of injury. On admission to hospital considerable tumefaction existed about the knee and leg, accompanied with severe pain. Treatment: Application of the pasteboard splint, rest, and cold-water dressings. July 8, 1865, had sufficiently improved to be sent North. Patient remained under treatment at the Naval Hospital, New York, until September 18, 1865, when he deserted—condition at the time, disabled.

Case IV. *Dislocation of Left Tibia Backward.*—S. C——, a fireman, attached to the United States Steamship Rodolph, aged twenty-one, and of a strong constitution, sustained a dislocation of the left tibia, backward, during the action in Mobile Bay, April 1, 1865. Injury by concussion. He was admitted to the Naval Hospital, Pensacola, Fla., three days afterward. The luxation was reduced, but there was considerable swelling of the limb, accompanied by inflammation. The treatment consisted in moulding pasteboard splints to the limb, in keeping the extremities at perfect rest on a double inclined plane, and in applying water-dressings. Ten weeks after his admission the patient was transferred to Naval Hospital, New York, where he was discharged for disability, June 30, 1865, with probabilities of regaining full use of the limb. In sending the notes of this case for the "Surgical History of the Rebellion" I supplemented the history with the following remarks: "From the severity of this and other cases, I think the dislocation of the tibia in each must have been complete. Considerable deformity about the knee existed for months after the injuries, and the joints in most of them were impaired in some degree by the inflammation, adhesion, etc., which invariably follows." This case, five years after injury, was seen by Examining Surgeon L. Jemison, of Bordentown, N. J., and he reported: "The bones of the leg now stand a little back from their normal position, and the joint seems movable upon the cartilages. He complains when standing any length of time upon his feet, and falls from a slight touch to the limb," etc. The Philadelphia Examining Board, in October, 1873, certified to "grating in the knee-joint when moved; ligaments relaxed, and knee falls back, unless supported, when his weight is borne upon it," etc. At subsequent dates the same Board reported that "the patella projects forward, and the in-

ternal tuberosity projects inward." Also, that there is decided crepitus, and that deformity is caused by dislocation of the internal semilunar cartilage of the knee. The pensioner was paid June 4, 1881.

CASE V. *Compound Comminuted Fracture of Tibia and Fibula, Lower Third, and of Tarsal and Metatarsal Bones of Right Extremity—Wound in Sole of Foot Communicating with Fracture.*—William G. B——, boatswain's mate, aged thirty-nine, constitution strong, received the above injury, March 29, 1865, on board the United States Steamship Osage, by concussion caused by explosion of torpedo beneath that vessel. The patient came under my care April 1, 1865, and was immediately placed under the influence of chloroform and the limb carefully examined. I never saw such complete destruction of bone, the fractured ends of tibia and fibula were driven down into the tissues of the foot, the tarsal and metatarsal bones separated and fractured, and every fragment appeared to be embedded in one mass covered only by the skin; the wound in plantar surface was small externally, and an ordinary probe directed upward could be passed into it nearly its whole length. Amputation was performed at once at middle third, circular operation. June 15, 1865, patient was sent North, and remained under treatment at Naval Hospital, New York, until August 5, 1865, when he was furnished with an artificial limb and discharged from the service. When amputation followed these injuries the "circular operation" was modified by a longitudinal incision from two to three inches in length through integument, in the direction of spine of tibia, to enable the flap to be easily turned backward for the second incision. This modification was serviceable and judicious in these cases, on account of the distention and engorgement of the tissues, and greatly facilitated the operation. The unhealthy condition of the stumps, and the tendency to sloughing following amputations for injuries resulting from causes described, must be attributable partly to the extravasation of blood in the severely contused tissues.

CASE VI. *Compound Comminuted Fracture of Left Ulna.*—William S——, coal-heaver, aged twenty-six, negro, received the above injury by concussion, April 1, 1865, on board the United States Steamship Rodolph, patient at the time standing with his left hand resting on a gun-carriage. After admission to hospital, April 4, 1865, he was placed under the influence of chloroform, and the arm carefully examined. The wound was large, contused, and lacerated, the ulna severely comminuted at middle and lower third, detached fragments of bone embedded in the muscular tissues. As the artery and nerve remained unimpaired, resection of the bone was performed, about six inches in all being removed. During the after treatment the same tendency to sloughing was noticed as in the previous cases, with the formation of abscesses in palm of hand and side of arm. June 15, 1865, the patient was sent North, with wound healed and gradually obtaining use of hand. He remained at Naval Hospital, New York, until July, 1865, when he was discharged to duty, with good use of arm and hand.

CASE VII. *Fracture of the Twelfth Dorsal Vertebra.*—W. P——, sailmaker's mate, aged thirty-four, of a weak constitution, received the above injury by concussion, April 14, 1865, on board the United States Steamship Sciota, Mobile Bay. The patient, when admitted to hospital at Pensacola, Fla., April 18, 1865, suffered excruciating pain on the slightest movement of the body; there was paralysis of lower extremities and of bladder, anxious countenance, feeble pulse, and evidences of exhaustion, followed in a short time by still more serious symptoms; large bed-sores quickly developed by the accompanying contusions of back, thigh, and legs; involuntary discharges of fecal matter, etc. Patient died twenty one days after receipt of injury.

Treatment.—Perfect rest, with head low, on comfortable bed, paralyzed extremities protected, and cleanliness of body; urine regularly removed with catheter; tonics, stimulants, etc., freely administered. The patient's mind continued clear until the day before death.

Autopsy revealed a complete impacted fracture of twelfth dorsal vertebra, and a fracture of corresponding ribs of right side, near vertebral articulation. Cord in position, but evidences of laceration of its coverings, and cavity filled with pus; spleen pulpy; bladder inflamed. The specimen of bone in this case was forwarded to the Army Medical Museum, Washington, D. C. No. of specimen, 2,447.

CASE VIII. *Fracture of Fibula, Lower Third Right Leg.*—Michael M——, seaman, aged thirty, received above injury by concussion, on board United States Steamship Osage, March 29, 1865. Plaster-of-Paris dressings applied to injured limb soon after admission to hospital, April 1, 1865. Dressings removed May 15, 1865, and patient discharged to duty May 24th. No deformity.

CASE IX. *Concussio Cerebri.*—Nicholas H——, ordinary seaman, aged twenty-one, constitution strong; shock occurred on board United States steamship Osage, March 29, 1865, by explosion of torpedo beneath that vessel.

On admission to hospital, April 1, 1865, patient had every symptom of compression, and was in a comatose condition. Death occurred the following day.

Autopsy revealed that the compression following concussion was caused by extravasation of blood in the substance of the brain. Clot larger than a walnut found in anterior portion of right cerebral hemisphere.

CASES X. and XI.—These cases of subluxation, one of ankle and one of wrist, remained under treatment one month, when they had sufficiently recovered to be returned to duty.

In reviewing what has been written of injuries produced by concussion, it must be conceded that the prognosis in all such cases is extremely unfavorable. Where death is not instantaneous, the patient suffers temporary concussion of the brain, together with serious contusions, accompanied, in most cases, with dislocation or fracture, and serious wounds of tissue. If the brain-shock is severe, compression follows and death ensues, as in the case of H—— (Case IX.), already noted. Those otherwise disabled suffer long confinement in hospital, and are finally discharged with loss of limb or diseased joints. It may be argued that injuries of this class could only occur on light-draft vessels of war, and men on board larger ships, with the same force applied, would only suffer temporary shock. But it must be remembered that only light-draft vessels can be used in shallow harbors, and with the torpedo of to-day there would probably be complete destruction of both crew and vessel, while the crews of our larger and more modern ships would be liable to every variety of disability, only in a greater degree, that has been shown to occur on the small vessels of the navy during the War of the Rebellion. Histories of late wars show the dread of explosions of the modern torpedo beneath vessels of large tonnage and heavily plated ironclads, knowing such a catastrophe would not only result in destruction of the ship, but be followed also by great loss of life.

During the Turco Russian War every precaution was taken to prevent the action of this great destroying force, and all exposed vessels in the Black Sea were in every instance surrounded by torpedo-nettings, and constant watchfulness was observed, both night and day, to insure safety.

Everyone is familiar with the destruction of the Albemarle by the successful use of the torpedo. It is safe to conclude, in spite of the great advancement made in the construction of war vessels of the present day, and their gradual introduction by our Government into the navy of the United States, that they will all have to combat, in our next war, with a torpedo force that has been developed in power commensurate with the increased strength of the modern ironclad and battle-ship, and the destruction to vessels of that class, and casualties on board when the force is successfully applied, will undoubtedly be greater than during our last war. Medical officers of the navy, therefore, in time of war can be prepared to

encounter a series of injuries by concussion exceeding in number and quite as formidable as those that have been reported.

The appended table, giving list of vessels destroyed by torpedo boats and torpedoes during the war 1861 to 1865, with number of lives lost, is of interest:

Name of Vessel.	Date of Engagement.	Number Killed.	Number Drowned.
Baron de Kalb	July, 1863	None	None.
Cairo	December 12, 1862.	None	None.
Housatonic	February 17, 1864.	.....	5
Baxley	December 10, 1864.	2	.....
Commodore Jones	May 6, 1864	1	2
Harvest Moon	March 1, 1865	1	.....
Patapsco	January 15, 1865	.....	61
Tecumseh	August 5, 1864	.....	91
Althea	March 12, 1865	2	None.
Ida	April 13, 1865	3	.....
Otsego	December 9, 1864	1	.....
Sciota	April 14, 1865	6	.....
Milwaukee	March 27, 1865	None	None.
Osage	March 29, 1865	5	.....
Rodolph	April 1, 1865	4	.....
Total		25	159

I might add, as a recent illustration of the torpedo force, that during the engagements between the naval forces of Chili and those of the insurgents, that the large ironclad Blanco Encalada, and the powerful monitor Huascar, were both sunk by the explosion of torpedoes. The Huascar was 180 feet long, 35 feet beam, and 1,100 tons burden, with an average speed of thirteen knots. She was built by the Messrs Lloyd, on the Clyde, and when cleared for action her deck was but four feet above the water.

A COMBINED LAPAROTOMY AND GYNECOLOGICAL OPERATING-TABLE.

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An operating-table claiming to meet all the requirements of modern abdominal and gynecological surgery should combine the following features:

1. Its construction should be simple, so as to permit of ready and thorough cleansing of all the parts, and, if need be, of sterilization of the entire table.

2. It should allow of irrigation *ad libitum* without wetting the clothing of patient, operator, or assistants.

3. It must provide for elevation of the pelvis—the so-called Trendelenburg posture—in the performance of abdominal section.

4. It should permit of ready turning, so as to allow the axis of light to fall as needed upon different portions of the field of operation, a point of especial importance in intra-pelvic surgery.

5. It should afford facilities for the ready performance upon the same patient, at the same sitting, of combined operations; and by this term I mean more particularly the combination of abdominal section with operations upon the uterus, vagina, and perineum.

6. It should enable us to dispense as far as possible with superfluous assistance and accessory apparatus, thus simplifying operative procedure.

With these requirements in view, the operating-table presently to be described was designed and constructed. It is a modification of the writer's laparotomy table presented to the Gynecological Section of the Tenth International Medical Congress. The modifications were chiefly for the purpose of adapting it to the performance of operations upon the uterus, vagina, perineum, etc., and to the readier employment of the Trendelenburg posture. As the table now stands, I have had it in continuous use since February 6, 1891, and for the purposes of my special work it leaves very little or nothing to be desired. In addition to the purposes for which it was especially designed, it meets most of the requirements of general surgery, and could be readily modified to meet them all. Such a modification has, I believe, already been attempted by one of our leading New York surgeons.

Polished plate glass and galvanized metal are the only materials which enter into the construction of the table. Galvanized iron and brass will not rust, and are not affected by even strong solutions of sublimate. A piece of either of them allowed to remain over night in a 1 to 500 bichloride solution comes out bright and untarnished. All parts of the table can thus be freely scrubbed or immersed in a bichloride solution, and the entire table can be subjected, without injury, to prolonged steaming, boiling, or to a dry heat of 100° C. and over. By this means the table, howmuchsoever fouled, can be sterilized and rendered aseptic.

The frame *A* of the table-top is cast in one piece of metal, with all corners and angles well rounded for purposes of ready cleansing. After uniting frame and legs all joints are filled, the metal surfaces smoothed, and the table finally galvanized as a whole. This secures the filling of any crevices and makes a practically unbroken surface continuous over the entire framework of the table.

The table-top (Fig. 1) measures 20 × 49 inches over all, and consists of two plates of polished French glass,

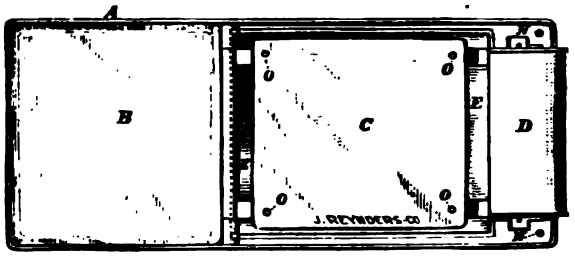

Fig. 1.—Top of Table. *A*, metal frame; *B*, polished glass plate for head and shoulders; *C*, ditto, for body; *D*, metal surface; *E*, trough; *N*, holes for foot-supports.

B, *C*, one-half inch thick, with rounded and polished edges and corners, and of a smooth metal surface, *D*. The glass plate *B*, 19½ inches square, supports the head and shoulders of the patient. It is removable from the frame for purposes of cleansing. The greater part of the trunk and part of the thighs of the patient rest on plate *C*, which is 19 × 16½ inches in size, and also removable. The metal surface *D* is 15 inches wide, 7 inches long in its horizontal, and 12 inches long in its vertical portion. The horizontal part supports the lower portion of the thighs, while the legs are flexed so as to bring the calves against the vertical prolongation. Two metal bars, cast in one piece with *D*, pass under *C*, supporting the latter, and are hinged upon a pinion passing across the table between the two glass plates. This pinion can be withdrawn, allowing of removal of all the parts for easy cleansing. Two projecting pins pass from each of the two metal bars through corresponding perforations, *O*, in the glass plate *C*, to keep the latter from sliding when *D* is elevated. The glass plate *C* is separated by intervals or spaces, 1¼ inch wide, from *B* above, *D* below, and the frame of the table on either side. All fluids used in irrigation pass over the edges of *C* into a trough, *E*, swung beneath, which conducts them into a receiving vessel, *F*, standing on the glass shelf *G* (Fig. 2). This permits of free washing of the abdominal walls before, or of flushing of the abdominal cavity during, an operation, without wetting the clothing of patient or operator.

When *C* and *D*, with the patient in position, are elevated—the Trendelenburg posture (Fig. 3)—the ratchets of *H*, catching upon the bar *J*, allow of any desired height being maintained, or of an almost instantaneous change in the degree of elevation being effected at any time.

The table stands thirty-two inches in height, and is mounted upon casters to permit of ready turning during an operation. The height may of course be varied to suit the height or fancy of the operator.

The table, as already stated, is designed for the per-

formance of both laparotomies and the various operations upon perineum, vagina, and uterus. It has also served me well in the performance of Kraske's operation, the patient being placed upon the abdomen with the lower extremities pendant over the lower edge of the table, which is then elevated until a comfortable height for the operator is attained. The head and lower extremities being thus lower than the buttocks, an artificial ischæmia of the field of operation is produced and the hemorrhage greatly lessened.

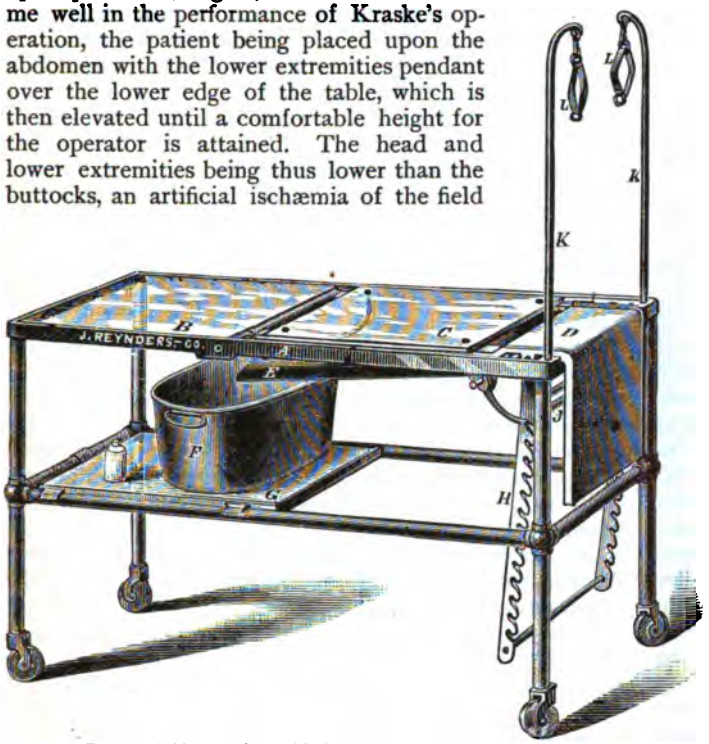

FIG. 2.—Table, complete, with foot-supports, *K*, and ankle-straps, *L*.

The use of the table for operations upon perineum, vagina, and uterus is depicted in Fig. 4. The patient, in the dorsal position, is brought to the lower edge of the table. The buttocks are supported upon *D*, while the ankles are encircled by the foot-straps *L*, and the feet held suspended two feet above the level of the table by the removable uprights *K*. (See also Fig. 2.) This method of securing flexion of the thighs is preferable to any other with which I am familiar. It does away with the necessity of leg-crutches or Beinhalter, with the straps encircling and constricting the neck and shoulder of the patient, and keeps the feet well out of the operator's way. The uprights also prevent the assistants from leaning upon the legs of the patient during operation, and the resultant subsequent complaints of the patient. The clothing is tucked up on to plate *C*, and the freest irrigation of the field of operation can be employed without wetting the patient.

The metal plate *D* takes the place of and renders superfluous the ordinary rubber perineal pad, and conducts all irrigating fluids into the basin *M*. This, to me individually, is a matter of considerable importance, since I have for some years past entirely discarded the use of sponges in operations upon the uterus, vagina, and perineum, and use in their stead constant irrigation during the operation, with sterilized water or weak antiseptic solutions. The ability to raise plate *D*, and with it the buttocks of the patient, to any height, is a convenience appreciated by the operator.

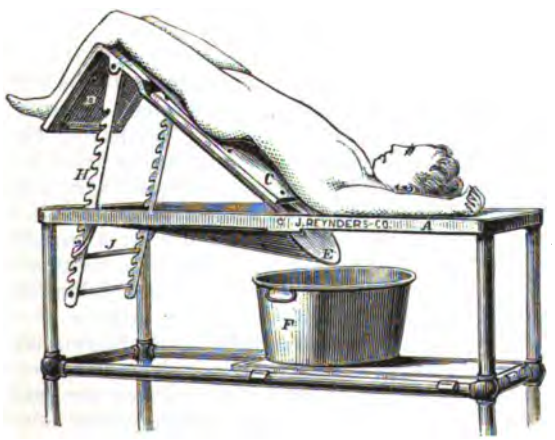

FIG. 3.—The Trendelenburg Posture. Any position between the horizontal and an inclination of 45° may be obtained on the table.

Every laparotomy table, to be complete, must be provided with facilities for the Trendelenburg posture (Fig. 3). The cut represents a patient of average size upon the table. Should the patient be particularly tall, a rubber-covered cushion placed beneath the calves will bring her into proper position. This posture has become well-nigh indispensable in pelvic surgery, and after a constant use of it extending over a period of more than two years, I can but reiterate what I said at a meeting of the New York Obstetrical Society, February 17, 1891:[1]

"Incidentally I would mention that the four operations at which the above specimens were obtained were all performed with the aid of the so-called Trendelenburg position—*i.e.*, with the pelvis elevated, the body resting upon an inclined plane, forming, with the horizontal plane of the table, various angles up to one of 45°. I desire particularly to call the attention of abdominal surgeons to this position, the manifold and obvious advantages of which, in the practice of pelvic surgery, are not yet sufficiently appreciated in this country. The obliging manner in which the intestines gravitate toward the diaphragm out of the operator's way; the increased facility with which the pelvic organs are rendered accessible to sight, touch, and manipulation; the ability to demonstrate these operations to spectators almost as well as those performed in other regions of the body, constitute a revelation when first brought to our notice. I have made use of the position in every one of the laparotomies performed by me within the past eighteen months, and have recently completely reconstructed my operating-table to meet all its requirements. Roughly stated, it reduces by about fifty per cent. the technical difficulties of intra-pelvic surgery, and the wonder to me is now how I ever managed to get along without it. I am sure that I have, by its use, satisfactorily completed more than one operation which formerly I should either have abandoned or performed but imperfectly."

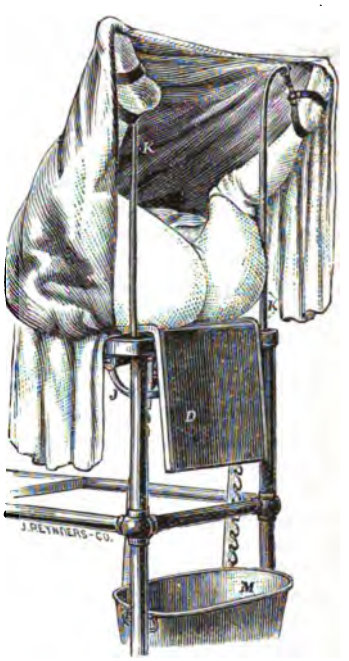

FIG. 4.—The Lithotomy Position, for Examination and for Operations upon Perineum, Vagina, and Uterus. *D*, carrying the buttocks of patient, can be raised to any convenient height.

When laparotomy is to be performed the patient is placed upon the table and anæsthetized. Anæsthesia may be induced in an anteroom, and the table, with the patient upon it, be rolled into the operating-room when unconsciousness has been established. The clothing of the patient is next tucked up on *B* and down upon *D* when the abdomen may be thoroughly scrubbed with soap and water, followed by bichloride solution, ether, etc., all fluids running off glass plate *C* without wetting the patient's clothing. With the exercise of a little care the patient may be returned to bed as dry as she came to operation. This preliminary disinfection, as well as any

[1] American Journal of Obstetrics, May, 1891, p. 597.

subsequent irrigation of the abdominal cavity, is performed with the patient in the horizontal position. When everything is ready for the beginning of operation the pelvis is elevated by an assistant, who can, as often as desired or necessary during the operation, almost instantly lower the patient to the horizontal, or elevate the pelvis to any angle up to 45°. A greater elevation than this I have never found necessary or convenient. The operator may take his position either to the right or left of his patient. I prefer to stand on the right side.

The requirements of modern gynecology often call for the performance of several operations upon a patient at one sitting. Thus, in a woman suffering from laceration of the cervix and of the perineum, it would hardly be excusable at the present day to perform trachelorrhaphy or an amputation of the cervix, and postpone the closure of the lacerated perineum to a later date. The performance of both operations at the same sitting is generally an easy matter; indeed, the dexterous operator should be able to add thereto, if necessary, other operative procedures—a curettement and anterior colporrhaphy, for instance—at the same sitting without prolonging the time required for all these operations much, if any, beyond an hour. Frequently, also, it is to the interest of our patient to add one or another required plastic operation to one of the simpler laparotomies, as nothing is looked forward to by women with such great dread as a series of operations to follow each other at greater or lesser intervals of time. The prudent operator will not, of course, for these or any other reasons, be prevailed upon to jeopardize in the least his patient's chances of recovery from a severe or difficult laparotomy. I have, however, a number of times preceded abdominal section for ventro-fixation or for ovarian cystoma by trachelorrhaphy, or followed it by perineorrhaphy, and have not lost a patient upon whom the double operation was performed.

In the operative treatment of prolapsus uteri I have frequently combined ventro-fixation of the uterus with various plastic operations, and it is in these cases especially that the table has proved very serviceable, owing to the possibility of easy and rapid change from the laparotomy to the lithotomy position, and *vice versa*. In April of the present year a patient was sent to me for the operative treatment of a prolapsus uteri. I found a lacerated perineum with a large cystocele and rectocele. The uterus was large, retroverted, and prolapsed in the second degree, the badly lacerated and enormously hypertrophied cervix presenting at the vulva. In addition she was found to be suffering from fungous endometritis. On April 11th I performed curettement of the uterus, amputation of the cervix, anterior colporrhaphy, laparotomy for ventro-fixation of the uterus, and colpo-perineorrhaphy in the order named, the time occupied in these operative procedures, inclusive of the necessary changes in the position of the patient, being exactly seventy five minutes. All the wounds healed by primary union, and four weeks after operation the patient left the hospital cured, and remains so to the present day.

This is not the proper place for a full discussion of the subject of combined operations, an urgent topic of the near future, if I mistake not, in gynecology. Suffice it to say that judicious individualization, the personal equation of operator and patient, and the time element especially, are all factors which must be taken into account in reaching a decision in any particular case.

I have also found the table most useful for gynecological examinations. With the patient in the dorsal position as depicted in Fig. 4, the plate supporting the buttocks can be elevated to any desired height. This elevation causes the abdominal viscera to gravitate toward the diaphragm, and by strongly flexing the thighs relieves the tension of the abdominal walls. Conditions are thus established most favorable to an easy and thorough exploration of the pelvic contents by bimanual palpation. The advantages of this position in the examination of difficult cases must be tested to be appreciated.

To recapitulate briefly, the table here described possesses the following characteristics:

It is a complete laparotomy and general gynecological operating-table, as well as a useful examining-table.

It meets the requirements of modern antisepsis in material and construction.

As a laparotomy table it permits of free irrigation of the abdomen, without and within, without wetting the clothing of the patient or operator.

In the employment of elevation of the pelvis—the Trendelenburg posture—it furnishes facilities for almost instantaneous change, as often as desired, to any position between the horizontal and an inclination of 45°, and permits of easy rotation for adjustment to the axis of light.

As a general gynecological operating-table it enables the operator to raise or lower the field of operation at will, and to dispense with all superfluous accessories, such as leg-crutches, straps, and perineal cushions.

The facilities for rapid interchange between the laparotomy and the lithotomy positions, renders the table especially serviceable in the performance of combined operations.

My thanks are due to J. Reynders & Co., 303 Fourth Avenue, for patient endeavor to meet my wishes in the construction of the table.

POLYPUS OF THE MALE URETHRA.

By HERMANN GOLDENBERG, M.D.,

NEW YORK.

THE *New York Medical Journal* of May 9, 1891, contains the report of two cases of polypi of the male urethra. Since then I have had the good fortune to observe another case, which I now present to the readers of the MEDICAL RECORD, as it is interesting from several points of view. The history of the case is as follows:

M. B——, a married man, whose wife and two children show no physical taint, is thirty-six years of age. He had in his youth a number of attacks of gonorrhœa, which were seemingly cured. Two years ago he experienced, for the first time, a slight pain during micturition, which gradually grew worse and exacerbating on excesses in Baccho or Venere. After a while he began to have pain during cohabitation, and of late the feeling "as though some one pricked him with a pin in the glans." He also suffered from frequent painful pollutions, headache, and nervousness and a continual desire to urinate. Furthermore, he could not empty his bladder as soon as desired, but was obliged to wait some minutes before the urine would come. The stream of urine was thinner than normal and he had a more or less copious urethral discharge, which last was the symptom that troubled him most.

When the patient first came under my observation he had a profuse purulent discharge. The subjective symptoms were at this time aggravated. It was supposed that the patient, who did not deny having had extra-matrimonial intercourse, was suffering from a fresh infection, and he was accordingly treated with retrojections of a solution of permanganate of potash (1 to 1,000), under which treatment the discharge ceased, except that there was always a drop at the meatus in the morning. His urine was clear, free from albumin and sugar. There were, however, a large number of "gonorrhœal threads." On examination of anterior urethral canal with bougies à boule and Otis's urethrometer no narrowing could be shown. On entering the posterior urethra with the sound a slight resistance was detected, which was, however, attributed to spasm of the musculus compressor urethræ. Ocular examination with the endoscope, under cocaine, revealed the following: There were a few granulations in the pars bulbosa, the anterior part of the urethra being normal. The posterior urethra was with difficulty brought into view, owing to a resist-

ance which was not easily overcome. The resistance was found to be due to a growth made up by a mass of polyps which appeared plainly in the field of vision. It was located in the membranous part, growing from the lower wall by a broad pedicle. It was about 3 ctm. long, 2 ctm. broad, and 1 ctm. thick, and divided, like a cauliflower, into three or four parts of equal size, closely pressed together. The surface of the growth was smooth, and of a white, epidermis-like color, sharply contrasting with the red, inflamed, surrounding tissue. It was slightly movable, and bled when touched with the probe. The diagnosis of papillomata, made by me at the time, was confirmed later on by Dr. Willy Meyer, who saw the case in consultation.

At first I intended to remove this papillomatous growth by a method which had proved very useful in a former case of polypus of the anterior urethra. It was by passing the endoscopic tube up to the polyp, and then—by a sudden push, to slice off the growth with the sharp edge of the tube. On second thought, however, this method struck me as applicable only when the growth is located anteriorly, so I abandoned it. The success of the method depends on the ability to stretch the penis tensely over the endoscopic tube, so that the polypus may be clearly cut, without danger of injuring the surrounding tissue After an unsuccessful attempt to remove the tumor with the so called "endoscope carunculotome," the ordinary urethral polypus forceps was employed and the growth partially removed. The operation was completed by Oberlaender's "tampon ecrasement," and the base touched with a twenty per cent. solution of argentum nitricum. Oberlaender's method is practical and absolutely harmless. It is carried out as follows: Two small cotton tampons, or a single large one, firmly attached to a cotton carrier, are introduced through the endoscope, pressed into the papillomatous mass and pushed about forward and backward and laterally, thus wiping the growth away from the surrounding tissue. The penis must be tensely stretched over the endoscope while the operation is being performed. In the case described, it was possible, by these means, to entirely remove the growth. The etiology, pathology, and symptomatology of urethral polyps were spoken of by me in a former article (*New York Medical Journal*, May 9, 1891).

In conclusion, let me again call attention to the value of the endoscope in the diagnosis and treatment of urethral diseases. The patient whose case I have related could not have been cured without its aid.

P.S.—The patient visited me four months after the operation and still remained cured; urination and cohabitation have been painless, and he has had no pollutions. The discharge stopped and the general health is excellent. On endoscopic examination no trace of the former trouble could be found.

26 East Sixty-second Street.

New Material for the Dime Museums.—A Mexican journal recently published, with wood-cuts, the account of two persons, living near Morelia, who had attracted considerable attention. One was a child, three years of age, who had a dermoid tumor on the buttock resembling a face. There was a cavity containing two incisor teeth, and above it two depressions containing fleshy caruncles like eyeballs, covered with eyelids, and above them are some hairs like eyebrows. The other case was a man, aged twenty two, who had a tumor the size of a man's head, to the left of the lower part of the spine. This was opened and found to contain the deformed leg, and possibly other parts of the fœtus. The surgeons thought that they had felt the body and head, but as the man was apparently sinking under the chloroform, it became necessary to suspend the operation. The child was the more notable of the two in popular estimation, for it was said that whenever the natis was exposed the face seemed to look at the observer with a sardonic grin that was most soul-stirring.

Progress of Medical Science.

Still Another New Antiseptic—Europhen.—The latest addition to antiseptic remedies is put forward under the fancy name Europhen. This substance is an iodine compound somewhat allied to aristol, containing 27.6 per cent. of the antiseptic element in combination with isobutylcresol. It is described as an amorphous yellow powder, resinous to the touch and adhering to the mucous membrane or skin much more readily than iodoform; its odor is described as peculiar and aromatic, reminding of saffron. In water and glycerine it is not soluble, but readily so in alcohol, ether, chloroform, collodium, traumaticin, and fixed oils. The oleaginous solution is said to be suitable for subcutaneous injection after filtering. Its great advantage over iodoform is said to be that it is much more bulky, so that a given weight will cover five times as much wound surface as the same quantity of iodoform. At the same time, of course, it has an advantage in point of odor.—*The Provincial Medical Journal.*

Salol in Infantile Diarrhœa.—Dr. Weber says that salol manifests its antiseptic properties most markedly in infantile diarrhœa. It is this peculiar quality which renders it superior to many other remedies. Another advantage is the rapidity with which it acts, the vomiting and diarrhœa ceasing in twenty-four hours. Dr. Weber's formula is as follows:

℞. Salol..... gr. iij.
Tinct. opii..... ♏ j.
M. Ft. tal. chart q. s. Sig.: One powder twice daily.

Of course, the amount of laudanum and salol is to be adapted to the age of the patient, especial care being necessary in the use of the former.—*Gazette des Hôpitaux.*

The Treatment of Furunculosis.—Dr. Viel says that the first aim of such treatment should be to destroy the pyogenic coccus in the skin by anti-parasitic remedies before necrosis of the tissue has taken place. If this necrosis has already taken place, then the separation of the necrotic mass and the expulsion of the pyogenic cocci should be accelerated as much as possible. The next aim should be to prevent by injections a new formation of boils. Lastly, the system should be prepared to resist a new invasion of the cocci. The author says that it is rarely possible to fulfil the first condition, and when once the invasion of the pyogenic cocci has produced visible alterations, such as swellings, nodes, or vesicles, necrosis has occurred, and the glandular secretory tract is occluded by pus. This prevents any antiseptics which have been applied to the skin from penetrating to the pyogenic cocci at the fundus of the gland. It is, therefore, impossible for the carbolized mercurial plaster of Unna, the concentrated spirituous solutions of boracic acid recommended by Lowenberg, and many other applications, to do any good. The injection of a three per cent. carbolic acid solution, and the introduction of a wire armed with nitrate of silver, are most painful, and, after all, uncertain. In speaking of the next condition of treatment the author decidedly recommends the old method of hot poultices. He considers that no remedy leads so quickly and certainly to the desired result. To prevent infection of the neighboring tissues he recommends washing the skin with cotton wool dipped in a one per cent. solution of corrosive sublimate, or, when the skin is very sensitive, of a four per cent. aqueous solution of boracic acid, before the application of each poultice. At night the boil is covered with a paste of equal parts of zinc and vaseline, with four per cent. of boracic acid on lint. He also recommends that very indolent boils should be opened, and thinks that it is wrong to squeeze them too soon. The paste also serves to guard the neighboring glands from infection. When a bath can be borne, the author prescribes sublimate baths. He gives his patients highly nourishing food, and, when they are anæmic, preparations of iron.—*The Lancet.*

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A NEW THEORY OF THE FUNCTIONS OF THE CEREBELLUM.

IN the present state of our knowledge, or rather ignorance, concerning the function of the cerebellum, it is interesting at least to note the various theories suggested concerning it, and it may be useful as well, since it is by comparing the different theories, and weighing the evidence brought forward in support of each, that we shall finally arrive at definite knowledge concerning this mystery of the nervous system. Since Flourens's time it has been pretty generally believed that the cerebellum has a purely motor function, and although it is not now regarded as a co-ordinating centre, still this observer's dictum, that a man "no more thinks with his cerebellum than he does with his diaphragm," is still accepted by many as true. Recently, however, Dr. Courmont, of Lyons, was led, during the course of a clinical study, to look more closely into the question of cerebellar physiology, and the result of this investigation has caused him to reject the previously accepted view of its motor function as incorrect. The statement and arguments for his theory, which is substantially that put forward rather timidly by Jessens in 1869, but which found little acceptance among physiologists, are contained in a book now in press, advance notice of which is published by Professor Folet in the *Bulletin Médical*, No. 45, 1891.

Briefly stated, Courmont believes that the cerebrum and cerebellum are similar in function as well as in structure. Just as the cerebrum is not only a motor organ, but the seat of cogitation as well, so the cerebellum is a centre for the registration of certain impressions, and for the origin of various psychical manifestations. The cerebrum is the seat of the higher mental faculties, such as thought, judgment, comparison, etc., while the cerebellum is that of the unreasoning mental processes, as love, hatred, joy, sorrow, etc. The one is the organ of sense, the other of sentiment.

This theory is a much more pleasing one certainly than that of co ordination, and Dr. Courmont puts forth some well-reasoned arguments in support of it. We cannot go very far into these arguments in this place, but shall quote only the main points of his theorem, referring the reader to the work itself, or to the review of it in the journal above mentioned, for a fuller exposition of the subject.

The first argument is the anatomical one, that the cerebellum is similar in its general construction to the cerebrum, and though the latter is much larger and of more complicated arrangement interiorly, yet the former is relatively richer in gray matter, which is the organ of the psychical functions. It may also be noted that the cerebellum in women, in whom, with all gallantry it may be said, sentiment is relatively more developed than reason, is larger in proportion to the cerebrum than it is in man. Again, the motor fibres from the cord pass forward and enter the cerebrum, while the sensory fibres incline backward and pass into the cerebellum. Kölliker, indeed, noted these anatomical peculiarities, and remarked that they ill agreed with the modern theories relating to the motor functions of this portion of the encephalon.

Use is also made of incidental testimony furnished by physiological experiments performed with other objects in view. Thus, it was noticed by Vulpian and Ferrier that animals deprived of both cerebral hemispheres might yet experience painful sensations and give expression to various emotions—a conclusive proof, the author holds, that the remaining intra-cranial structures, the cerebellar lobes, must be the seat of these emotions.

The main facts, however, upon which Dr. Courmont relies to establish the correctness of his theory are those furnished by clinical study and corroborated by post-mortem examination. It was the study of a case of puerperal mania which first led him to doubt the correctness of the prevailing theory of the cerebellar functions. The woman was apparently perfectly rational when speaking upon matters of fact, but became at once delirious whenever a word was spoken suggestive of sentiment or affection. If these two fundamental faculties of understanding and sentiment resided in cells of the cerebral cortex, it was difficult to understand how a circulatory disturbance such as this could affect one set of cells and leave the adjacent ones in their normal state. It was thus that he came to the belief that the cerebellum was something more than a mere regulating switch-board for motor impulses. Dr. Folet cites a few of the clinical observations found by the author in a diligent search through the literature of the past several years, in which autopsy showed lesions of the cerebellum. One case was that of a woman, who was morbidly timid, the least thing sufficing to arouse her fears, which, in her childhood, would be expressed by screams and weeping, later by a simple trembling and flight. Yet in other ways she was rational enough, and could converse connectedly with anyone of whom she had learned not to be afraid. She had not a trace of sexual feeling. On autopsy there was found to be an absence of one-half of the cerebellum. A second case was that of a child, who had always exhibited an utter indifference to everything, expressing no pleasure and no pain, yet possessing normal muscular power, and replying sensibly, though in monosyllables, to any question put to her. Upon her death, at the age of eleven, there was found to be a complete absence of the cerebellum. A man died at the age of thirty-nine, who had been regarded during life as an idiot; yet he had a high degree of a certain form of intelligence. He escaped six times from the asylum in which he was confined, making his way out by means of false keys which he fabricated himself. His time was passed chiefly in reading the various reviews, and it was stated that he had a ready and sure

wit in everything relating to concrete matters. He was, however, without any sentiments of honor, affection, gratitude, or the like; was a liar, a thief, and in every possible way immoral. On autopsy he was found to have had a very minute, though well formed, cerebellum.

In a number of experiments made upon rats M. Courmont found that when the cerebellum was removed these animals became profoundly apathetic, and showed neither fear nor anger when disturbed. Yet they were not in a stupor such as is seen after removal of the cerebral hemispheres, for they could walk about, and would approach of their own accord the vessels containing food and water. In those in whom only a part of the hind brain was removed, inflammation of the remaining portions taking place, there arose a state of exaggerated impressionability, the slightest noise sufficing to excite them beyond measure.

A number of arguments, in their way corroborative, are drawn from comparative anatomy, it being shown that the cerebellum is developed in different orders of the animal kingdom in exact proportion to the existence in them of the affections. Thus reptiles and fishes, in whom the sentimental faculties may be regarded as barely existent, the cerebellum is almost rudimentary. It is most developed in the ray and the dog-fish, and these, of all fishes, are precisely the ones that betray the existence of some affection in the care which they take of their young, and in the fact that the male and female couple. Next to man, the dolphins, seals, sea-lions, and other marine mammifers have the best-developed cerebellum, and this agrees with the fact that they are among the most socia ble and affectionate of animals. If the cerebellum were the organ of muscular co-ordination, it ought to attain its greatest development in those animals that are the most active; yet in the squirrel it is less developed than in most other mammals.

There is much more that is interesting in Dr. Courmont's argument, as foreshadowed in the review by Dr. Folet, but we have quoted enough to show that the author is not wholly carried away with a theory, but rests his belief upon facts which he believes to be convincing, even though others may not be ready to accept all his conclusions.

THE KNEE A DISTINCTION OF SEX.

The difference of weight in the brains of men and women has long been a source of deep interest to all who discourse of equality and rights. Those extra ounces remain more or less a stumbling-block to the unwary. Metaphysical justice refuses to regard them other than iniquitous. Yet certain structural differences escape such close scrutiny, notably that of the knee.

The structure of the knee feminine constitutes in itself a permanent disability for many masculine pursuits. The knee-joint in women is a sexual characteristic, as Dr. Ely Van De Warker long ago pointed out. Viewed in front and extended, the joint in but slight degree intercepts the gradual taper into the leg. Viewed in a semi-flexed position the joint forms a smooth, ovate spheroid. The reason of this lies in the smallness of the patella in front and the narrowness of the articular surfaces of the tibia and femur, and which in man form the lateral prominences, and this is much more perfect as part of a sustaining column. Muscles designed to keep the body fixed upon the thighs in an erect position, labor under the disadvantage of shortness of purchase, owing to the short distance—compared to that of man—between the crest of the ilium and the great trochanter. A man has a much longer purchase in the leverage existing between the trunk and extremities than a woman. The feminine foot, comparatively speaking, is less able to sustain weight than that of man, owing to its shortness and the more delicate structure of the tarsus and the metatarsus. Women are not well constructed to stand many hours consecutively and every day. It is safe to affirm that they have instinctively avoided certain fields of skilled labor on purely anatomical grounds, in which the smaller quantity of brain-substance proves less an adverse factor than the shallow pelvis, the peculiarity of the knee, and the delicate nature of the foot. These, as parts of a sustaining column, undeniably leave something to be desired. Even the right to vote would not confer on womankind the right to be soldiers. Equality, it appears, is quite as much an affair of the knee as of brains.

HEART DISEASE AND PELVIC LESIONS.

According to a recent pathological study by Dr. W. W. Potter, of Buffalo, pelvic inflammations and their remaining exudates constitute about one-third of diseases treated by gynecologists. The pelvic organs have an enormous blood- and nerve-supply, which is at once their weakness and their strength. The condition of the heart and blood-vessels, together with that of the nervous system, necessarily exercises important influence upon the pelvic organs, both in health and disease. Fothergill has earlier noted the close relationship of functional cardiac troubles and disturbances of pelvic tissues.

The question of coexisting organic heart disease and pelvic lesions secured attention from Nevins some time ago, and his clinical observations are now on record. It remained for Williams, of the Edinburgh University, to contribute to the literature of the subject the clinical history and post-mortem examination of sixty-one consecutive cases. This report, in a small way, is a reply to inquiries as to what proportion of women needing gynecological aid suffer from organic valvular disease of the heart; from what form; what proportion with pelvic lesions present also coexistent valvular difficulty; and what expression of pelvic abnormality is most frequently found associated with organic heart affections.

About one-fourth of these cases presented during life symptoms of some form of valvular disease. Of this number 11.4 per cent. suffered from mitral stenosis alone, 8.2 from mitral and concomitant aortic lesions, and 4.9 per cent. from pure aortic difficulties. Mitral disease existed in eighty per cent. of all with organic valvular lesion, this being the commonest form of organic heart-trouble among women. The most frequent pelvic lesions are pelvic peritonitis, cellulitis, and catarrh of the cervix. The tables given in Dr. Williams's paper (*Edinburgh Medical Journal*, November, 1890) are carefully arranged and of great interest. According to these, endocervicitis is the most frequent pelvic lesion coexistent with organic heart disease, and next in frequency are con-

gestive or inflammatory conditions of the uterus, tubes, and ovaries. In considering whether valvular or pelvic lesions develop first, the author states that the majority of these women were suffering from evident heart-trouble when admitted to the gynecological clinic, and that two had been in the hospital years before for the treatment of cardiac disease.

MYXŒDEMA AND EXOPHTHALMIC GOÎTRE.

In Byrom Bramwell's "Atlas of Clinical Medicine," Volume I., Part I., are contrasted the symptoms of myxœdema and exophthalmic goître. In many respects the clinical features of each are the direct opposite of the other. Their chief points of resemblance consist in the fact that in both the thyroid gland is affected, and that both diseases are more frequent among women than men. In myxœdema the onset is usually slow and insidious, while exophthalmic goître frequently develops suddenly. Thirty is about the earliest age at which myxœdema appears. Exophthalmic goître most often develops between the ages of fifteen and twenty-five. In myxœdema there is atrophy and degeneration of the thyroid, diminution or abolition of its function, subnormal temperature, sensations of chillness, skin dry and harsh, increased electrical resistance, constipation, amenorrhœa usually, diminished emotional activity, and slowness of all nerve-processes. Increased temperature, diminished electrical resistance, soft, moist skin, and increase of perspiration, menorrhagia, attacks of diarrhœa, emotional excitability, and general nervousness, are all symptoms of exophthalmic goître. The degeneration of the thyroid in myxœdema, Victor Horsley suggests, may be secondary to some change, at present unknown, in the nervous system—secondary to some unknown primary nerve lesion. This may be also true of exophthalmic goître.

THE COLLAPSE OF THE "GOLD CURE" FOR DRUNKENNESS.

Despite a famous adage to the contrary, it is the expected that most frequently happens; and under this head we must put the death, in a drunken spree, of the leading convert to the Keeley Institute and its methods.

Two or three months ago there appeared in the *North American Review* a fervidly eloquent description of Keeley, his treatment, and his wonderful cures. The writer, an ex-patient, not only believed himself cured, but knew it with an intensity of conviction that was almost pathetic. Those reading this article could see that it expressed an exaltation of feeling which was hardly normal, and which was bound to be followed sooner or later by a relapse.

Within barely nine months of the Keeley "cure," the patient entered upon a carouse of unusual length, and finally died from its results.

It is a most sad and tragic story, so sad that one feels little inclined to moralize, and least of all to say, "We told you so." The story carries its own lesson. It is the beginning of the end of the Keeley method; it shows what has all along been asserted, that the man possesses no specific, and that his treatment is mainly a moral and hypnotic one.

Of course his adherents take refuge in the statement that he does not pretend to cure all cases, and that about five per cent. relapse. There is not the slightest proof, however, that only five per cent. do relapse. As for the further assertion, that some patients while cured may get the disease again, it is a silly quibble not worth discussing.

We believe most thoroughly in mental and moral therapeutics for the inebriate; but we protest against giving credit of cures by such means to any inert drug or to any other "Something" which is kept as a quackish secret. The charlatan produces wonderful cures for a time, but in the end his work tends to injury and disaster.

VEGETARIANISM AGAIN.

A lady correspondent of one of our daily papers makes urgent inquiries as to where the vegetarians are, and expresses a desire to form an association and start again this phase of dietetic reform.

To the inquiring mind of the would-be vegetarian we would like to submit the following letter, a portion of which we have reprinted before. The author, Dr. Alanus, gives his reasons for abandoning vegetarianism, and says:

"Having lived for a long time as a vegetarian without feeling any better or worse than formerly with mixed food, I made one day the disagreeable discovery that my arteries began to show signs of atheromatous degeneration. Particularly in the temporal and radial arteries this morbid process was unmistakable. Being still under forty, I could not interpret this symptom as a manifestation of old age, and being, furthermore, not addicted to drink, I was utterly unable to explain the matter. I turned it over and over in my mind without finding a solution of the enigma. I, however, found the explanation quite accidentally in a work of that excellent physician, Dr. E. Monin, of Paris. The following is the verbal translation of the passage in question: 'In order to continue the criticism of vegetarianism we must not ignore the work of the late lamented Gubler on the influence of a vegetable diet on the chalky degeneration of the arteries. Vegetable food, richer in mineral salts than that of animal origin, introduces more mineral salts into the blood. Raymond has observed numerous cases of atheroma in a monastery of vegetarian friars, among others that of the prior, a man scarcely thirty-two years old, whose arteries were already considerably indurated. The naval surgeon Treille has seen numerous cases of atheromatous degeneration in Bombay and Calcutta, where many people live exclusively on rice. A vegetable diet, therefore, ruins the blood-vessels and makes prematurely old, if it is true that man is as old as his arteries. It must produce at the same time tartar, the senile arch of the cornea, and phosphaturia.' Having unfortunately seen these newest results of medical investigation confirmed by my own case, I have, as a matter of course, returned to a mixed diet. I can no longer consider purely vegetable food as the normal diet of man, but only as a curative method, which is of the greatest service in various morbid states. Some patients may follow this diet for weeks and months, but it is not adapted for every-

body's continued use. It is the same as with the starvation cure, which cures some patients, but is not fit to be used continually by the healthy. I have become richer by one experience, which has shown me that a single brutal fact can knock down the most beautiful theoretical structure."

We submit the foregoing statements to the lovers of vegetables, because they show that vegetarianism is not a sure and simple road to health and longevity. We do not, however, find ourselves so completely convinced as does Dr. Alanus, that the premature hardness of his temporal arteries was due to his diet alone. Perhaps he ate too much; for this we are sure is a more certain cause of arterial sclerosis than any special diet. In fact, it is still the custom to put cases of Bright's disease on milk and vegetables, as being more promotive of low arterial tension.

All experience shows that temperance in eating, and a good cook, are better than systems of diet in securing health and longevity.

THE GEORGIA BILL TO PREVENT DRUNKENNESS AMONG PHYSICIANS.

We congratulate our Georgia medical brethren on the fact that they have a Governor who has more sense than their Legislature, and that the said Governor has vetoed the bill to prevent drunkenness among physicians. The ground taken by him was essentially that which we took in our criticism of the matter, viz., that the law had no right to make drunkenness a crime in one class of citizens and not in another. The law can make physicians responsible for what they do while intoxicated. This is quite proper, and is the law essentially in several States. The law can also make it a crime for any and every man to get drunk; but it is invidious to select druggists and physicians.

We trust that hereafter the physicians of Georgia will keep a little closer watch on their Legislature, and see that no more such foolish laws are enacted. The State Society should have a committee on legislation, and give it money enough to look properly after medical affairs.

THE ABUSE OF POSTAL PRIVILEGES.

We would respectfully call the attention of the Post-Office authorities to the letter of Professor Flint in the present issue of the MEDICAL RECORD. The charges made are of a grave character, and coming as they do from such a responsible source demand the most thorough investigation.

The Medical Society of the State of New York.—The next meeting of the Medical Society of the State of New York will be held at Albany, February 2, 3, and 4, 1892. Dr. Seneca D. Powell, 12 West Fortieth Street, New York; Dr. James D. Spencer, of Watertown; and Dr. Franklin Townsend, 2 Park Place, Albany, have been appointed the Business Committee. Any communications regarding papers or any matter pertaining to the Society which should properly come before the Business Committee, should be addressed to Dr. Seneca D. Powell, 12 West Fortieth Street, New York City.

News of the Week.

Gynecologists and Happy Homes.—The following is the interesting preliminary "whereas" of a series of resolutions advocating the organization of a new gynecological and surgical society:

"*Whereas*, The happiness of our homes and the welfare and perpetuity of future generations depend upon the physical as well as the moral status of women."

After some further whereases the following resolutions were adopted:

"*Resolved*, That we, the undersigned physicians, do hereby pledge our hearty co-operation and personal support in the organization and perpetuation of a society to be known as the 'Western Association of Obstetricians and Gynecologists.'

"*Resolved*, That the members of this Association shall consist of such members of the profession (regular) who are giving special attention to the practice of obstetrics and gynecology, who reside in the following States and Territories, to wit: The Missouri River cities of Iowa and Missouri; the States of Kansas, Nebraska, and Colorado; New Mexico, Indian Territory, and Oklahoma.

"*Resolved*, That the meeting for the organization of this Association shall be held in the club-room of the Copeland Hotel, in Topeka, Kan., Tuesday, December 29, 1891, at 3 P.M."

The Frequency of Infantile Convulsions.—Dr. G. L. Walton has found that out of 1,000 children, taken consecutively at random from all classes of society, 11.1 per cent. have been found to have a history of infantile convulsions. Among epileptics whose epilepsy did not begin in infancy, seven per cent. had infantile convulsions

The Medical Attendant of the Late Mr. Parnell was announced by cable to be the celebrated neurologist, Dr. W. R. Gowers; English medical journals state that it was just plain Mr. Jowers. Mr. Parnell died of rheumatism and rheumatic hyperpyrexia.

Dr. Koch's Tuberculin.—A telegram from Berlin announces that Dr. Koch published in the *Deutsche Medizinische Wochenschrift*, on October 22d, a further communication on tuberculin, from which it results that, by adding to tuberculin alcohol of sixty per cent., a deposit is formed, which Koch considers to be as nearly as possible the active principle of tuberculin. In therapeutic action this purified tuberculin does not differ materially from the original preparation.

Among the most Valuable Literary Gifts to Professor Virchow, on his seventieth birthday, were two collections of hitherto unpublished scientific researches and essays. The first collection was the work of Virchow's former and present assistants. Professor O. Liebreich presented the volume—a handsome quarto containing contributions by Hoppe-Seyler, v. Recklinghausen, Klebs, O. Liebreich, M. Roth, Salkowski, J. Orth, Jürgens, Grawitz, O. Israel, Langhans, and David Hausemann. The other collection is in the shape of three goodly volumes. Among the authors of the fifty-four papers are: Sir Joseph Lister, Sir James Paget, Horsley, Semon, Pio Foà, Bizzozero, Sangalli, Marchiafava, Celli, Popoff, Ivanowsky, Wood, Jacobi, Bouchard, Metschnikoff, Miura, Stockvis, Ret-

zius, Ackermann, Gerhardt, Leyden, Nothnagel, Rindfleisch, Senator, v. Ziemssen, Ziegler, and Hans Virchow. Among American contributors were Dr. A. Jacobi and Dr. H. C. Wood.

Father Mollinger, of Troy Hill, Pittsburg, priest, thaumaturgist, prophet, and medicine-man, who has accumulated $300,000 from his miraculous cures, is in disgrace (*Physician and Surgeon*). The inevitable Nemesis which awaits chicanery has come from the source which more than any other sustained the reverend father's sensational pretensions—the lay press. The so-called cures have not materialized. In excuse for Mollinger's practices it is pleaded that he is a regularly graduated practising physician, and not only "lays on hands" but gives medicine. This does not excuse the ceremonies of Saint Anthony's Day, when numberless poor ignorant people sacrificed their property and travelled hundreds of miles for relief of imaginary or incurable ailments. A professed follower of Luke, the "physician beloved" of Jesus Christ, can hardly justify himself in such procedures.—*Medical Standard.*

Hydrophobia and Syntax.—The good citizens of Connecticut have been considerably alarmed at the prevalence of hydrophobia among the dogs of the State. The following remarkable notice appeared in the columns of a Farmington journal: "By notice elsewhere it will be seen that any persons owning a dog in the town of Farmington are notified that they must be properly muzzled."—*Medical Record.*

Which reminds us of the notice the Georgia farmer posted on his premises: "If any man's or woman's cow or bull gits in this yere pastur, his or her tail will be cut off, as the case may be."—*Atlanta Medical and Surgical Journal.*

St. Mark's Hospital, New York.—Sir Edwin Arnold gave a reading in aid of this hospital. The amount was $1,203.73.

The Howard University Medical Department graduated Miss Eunice V. Shedd and other colored female physicians, in place of Harvard University, as printed in the MEDICAL RECORD. Dr. Reyburn, who kindly sent us the information, is correct when he suspects that the error was due to his bad penmanship.

The Orton Prize.—At the annual meeting of the New York State Medical Association, held in New York on October 28th to 30th, the committee on the J. G. Orton prize of $100 for the best short popular essay on some subject connected with practical sanitation, reported that ten essays had been submitted in competition. The prize was awarded to Dr. Howard Van Rensselaer, of Albany, N. Y., the title of the essay being "Impure Air, and the Ventilation of Private Dwellings."

The Proclivity of Women to Cancerous Disease.—Dr. Snow says that the number of women who apply at the Cancer Hospital is twice as great as that of the men, and this notwithstanding that the cases of cancer of the lip and tongue are almost all males. This excess of females is due to the prevalence of malignant disease of the uterus and mamma. He then asks why these organs should be so frequently attacked. His answer seems to be threefold: First, these organs are rich in cell-elements. Second, they are frequently exposed to irritation. Third, their normal condition and nutrition are interfered with by circumstances which he considers are more or less directly the result of what is called civilized life. Of these he specially blames constipation, over-pressure at school, the abuse of tea, and tight-lacing.

In Memoriam: Dr. Fordyce Barker and Dr. Abram DuBois.—The New York Academy of Medicine devoted the entire evening, November 5th, to the memory of ex-President Dr. Fordyce Barker, and of its first benefactor, Dr. Abram DuBois. The eulogies were read by Drs. W. T. Lusk and A. B. Ball.

Reviews and Notices of Books.

THREE THOUSAND QUESTIONS FOR MEDICAL STUDENTS. ARRANGED FOR SELF-EXAMINATION. Philadelphia: P. Blakiston, Son & Co. 1891.

THIS vest-pocket publication covers all the seven primary medical branches, and includes diseases of children as well. After each question are numerals referring for the proper answer to the page of one of the text-books mentioned in the introduction as the authority in that particular topic. Most of the questions are practical. Some might well have been omitted. Interleaves allow additions to the printed lists. The little book is attractively gotten up. A serious drawback to its general use is that it is manifestly intended to advertise the medical text-books issued by the same publishers.

THE DAUGHTER: HER HEALTH, EDUCATION, AND WEDLOCK. By WILLIAM M. CAPP, M.D. Pp. 144. Philadelphia: F. A. Davis. 1891.

THE aim of the book is fully expressed in the title. It is a somewhat difficult task to write a work of this kind which is good for anything. It must go into professional details somewhat in order to be definite enough to afford any actual instruction. On the other hand, there are obvious reasons for not putting into the hands of young women details that savor too much of the physician's office and examining-room. Dr. Capp has hit upon a happy medium, and has written a book free from the least suggestion of coarseness and yet conveying much knowledge which ought to be in every woman's possession.

DIPHTHERIA: ITS NATURAL HISTORY AND PREVENTION. Being the Milroy Lectures of the Royal College of Physicians of London for 1891. By R. THORNE THORNE, F.R.C.P., F.R.S., etc.; Assistant Medical Officer to Her Majesty's Local Government Board. 12mo, pp. 266. London: Macmillan & Co. 1891.

THESE lectures discuss, in the light of modern sanitary science, the much-debated question of the nature and cause of diphtheria. Chapter I. gives the decennial statistics of the disease in the United Kingdom. It is frankly admitted at the outset that our increased knowledge in regard to so-called "zymotic" diseases in general has not been rewarded with information of equal scientific accuracy regarding diphtheria. In England the disease is on the increase, while other filth diseases are decreasing. Of late years it has come to be more and more an urban malady, though still holding its own in sparsely settled districts. Geological conditions have not been shown to hold any constant relation to its origin and diffusion, though Mr. Thorne believes that "surface soil, when considered in connection with relative altitude, slope aspect, and prevailing rainfall has . . . concern in the maintenance and diffusion of diphtheria,

and has very possibly some relation with its beginnings." These conditions often impart to a local throat malady "a specific and infective quality." Much stress is laid upon the general proposition that ordinary epidemics of "sore throat" can gradually grow into true diphtheria. A perusal of the history of various diphtheria epidemics shows that the disease has spread more during the months of excessive rainfall and of comparatively low temperature.

The general position taken is that topographical and meteorological conditions leading to a cold and wet soil and atmosphere are predisposing causes of diphtheria, and that the morbific agent is an "organism with seasonal development, attaining its chief reproductive power in the autumn, the very season when the air is known to be especially charged with fungoid germs."

The author fully admits the powerful factor of pre-existing abrasions of the mouth epithelium from any cause in the etiology of the affection.

Chapter II. treats of the relation of diphtheria to "sore throat" and scarlatina. A careful study is made of the progressive development of the property of infectiveness.

Chapter III. discusses the influence of school attendance in spreading the disease. Interesting statistics are given concerning the relation of compulsory education to the general increase of the disease.

Chapter IV. illustrates the property of milk to diffuse the malady. A moderate position is taken with reference to the etiological importance of the Klebs Loeffler bacillus. Mr. Thorne contents himself with quoting at length the results of Klein's studies, and does not offer any original observations on this point.

Chapter V. treats of general measures of prevention, isolation, and disinfection.

It will be seen from this analysis of contents that the point of view is that of the sanitarian rather than that of the bacteriologist or practising physician. It is well that we should have such an important subject discussed in every possible light. Diphtheria is, perhaps, the disease which we most dread, and the therapeutics of which still flounder about in a sea of uncertainty. We have as yet no specific for it. We shall ward off its ravages by prevention rather than by cure. We regard Mr. Thorne's lectures as a most creditable contribution to literature. They may well be read by everyone practising medicine, for every one meets with cases of diphtheria. His analyses are searching, his reasoning cogent, and his conclusions logical.

De l'Empyème Latent de l'Antre d'Highmore. Étude accompagnée de vingt-deux Observations inédites, recueillies à la Clinique du Dr. Lichtnitz (de Bordeaux). Par le Dr. J.-Marcel Jeantz. Bordeaux: Feret et Fils. 1891.

This is a very complete and satisfactory study of the latent form of purulent inflammation of the antrum of Highmore by a close student and accurate observer who has been able to make use of a considerable amount of new material. The work is divided into seven parts, devoted successively to the history of this form of suppuration within the antrum, its etiology, symptomatology, diagnosis, course, and treatment, and concluding with the clinical histories of twenty-two hitherto unpublished cases. The subject is treated of exhaustively, and the book must be regarded as a valuable addition to the already somewhat voluminous literature of this disease.

Les Épilepsies et les Épileptiques. Par Ch. Féré, Médecin de Bicêtre. Avec 12 planches hors texte et 67 figures dans le texte. Félix Alcan, Éditeur. Large 8vo, pp. 636. Paris: Baillière & Cie. 1890.

Féré's large work, though aiming to furnish a systematic account of epilepsy, differs from ordinary works of this class. It contains a large amount of carefully made clinical observations, also many investigations into the physique and psychology of epileptics, particularly such as bear upon the stigmata of degeneration. We know of no work which contains so full an account of the physical condition and morbid physiology of this class. Very interesting facts are given also regarding post-convulsive phenomena.

It is in these fields of clinical study that Féré's book possesses unique and positive value. In the chapter on pathology and pathological anatomy Charlin's observations are quoted, but nothing else new is given. It is something of a relief not to find pages filled with discussions on higher and lower levels, discharging and inhibiting centres, and the other machinery of the evolutionary epileptic hypotheses of which English writers are so fond.

The therapeutic part of the work is disappointing. It contains a list of remedies recommended for epilepsy. but this list is not very critically edited; the author's only original recommendations are the cautery to the scalp in focal epilepsy, and the leaden cap in epileptic headaches, The illustrations and typography of the book are excellent.

Recherches cliniques et thérapeutiques sur l'Épilepsie, l'Hystérie et l'Idiotie. Compte-rendu du service des Enfants idiots, épileptiques, et arriérés de Bicêtre pendant l'Année 1889. Par Bourneville, Sollier et A. Pilliet. Vol. X., avec 22 figures dans le texte et une planche chromo-lithographique. Paris: Lecrosnier et Babé. 1890.

This volume contains a report of the service during the year 1889, therapeutical studies on bromide of gold, bromide of camphor, and picrotoxine, and clinical and pathological studies on myxœdematous idiocy, encephalitis, and hysteria. Bourneville's reports always contain matter of practical and scientific interest and the present one is no exception.

Psychologie de l'Idiot et de l'Imbécile. Par le Dr. Paul Sollier. Avec 12 planches hors texte. Félix Alcan, Éditeur. 8vo, pp. 276. Paris: Baillière et Cie. 1891.

Sollier's work will commend itself to teachers of backward and imbecile children, to physicians who so often have to deal with them, and especially to psychologists, who are now beginning to find out how much can be learned by studying imperfectly developed minds. This book is one of a series called "The Library of Contemporary Philosophy."

On the Medical and Surgical Uses of Electricity. By George M. Beard, A.M., M.D., and A. D. Rockwell, A.M., M.D.; formerly Professor of Electro-Therapeutics in the New York Post-Graduate Medical School and Hospital; Fellow of the New York Academy of Medicine; Member of the American Academy of Medicine; Member of the New York Neurological Society; formerly Electro-Therapeutist to the Woman's Hospital of the State of New York, etc. Eighth edition. With over two hundred illustrations. Pp. xxvii., 788. New York: William Wood & Co. 1891.

This book needs little comment. For the past twelve years it has been an acknowledged authority, and its popularity is evinced by the fact that of the seven previous editions each successive one has been exhausted more rapidly than its predecessor. A like flattering reception doubtless awaits this, the eighth edition, for it is far and away the best one yet published. Changes have been extensive, and the work as it now stands represents the complete and reliable knowledge of electricity. Everything of value pertaining to the subject is given. The chapters on "Diseases of Women," "Electrical Apparatus," and "Static Electricity" have been recast, additions made to the chapter on "Electro-Diagnosis," and many

new illustrations representing practical and important methods of application supply the places of the old ones. Two new chapters are added. One of these, "The Dosage of Electricity," is of especial importance. The failures that so many physicians meet with in the use of electricity are largely due to their ignorance of dosage. The author also calls especial attention to the new chapter on the "Physical and Physiological Activities of the Induced Current," etc. There is no more interesting study in electro-therapeutics than the differential indications for the use of the induction currents of quantity and tension, and in this chapter the subject is discussed to the measure of our present experience. The book is not only a work of exhaustive reference, but the busy practical physician, who cares little for the science and everything for clinical results, will find just what he needs presented by a large variety of illustrations of the various methods of application and by details of more than two hundred cases, including every type of medical and surgical disease for which electricity by any method of application has been used with any encouraging result. Dr. Rockwell has done his work of revision well. He writes clearly and forcibly, and, being a thorough electrologist, scientifically. The publishers likewise have maintained their excellent reputation, and have presented the profession with a book that is a model of the typographical art.

On Painful Menstruation. The Harveian Lectures, 1890. By Francis Henry Champneys, M.A., M.D. Oxon., F.R.C.P.; Physician accoucheur and Lecturer on Obstetric Medicine at St. Bartholomew's Hospital (late at St. George's Hospital); Consulting Physician to the General Lying-in Hospital; Examiner in Obstetric Medicine, Member of the Board of the Faculty of Medicine in the University of Oxford; Examiner in Obstetric Medicine in the Royal College of Physicians, London, and (late) in the University of London. Pp. 88. London: H. K. Lewis, 1891.

The Harveian lectures are always good. The series of 1890, which make up the book in hand, was no exception to the rule. In fact, the lectures were of unusual excellence, and gave the most complete exhibition of a very important subject that the profession has yet had—a subject that is not only of interest to the specialist but to every practitioner, for cases of painful menstruation are daily met with. There are three lectures in the book. The first treats mainly of the physiology of menstruation, but also takes up the subject of dysmenorrhœa in general, giving a description of the several varieties. Lecture No. II. is devoted to membranous dysmenorrhœa, which the author has most thoroughly studied. Its literature is so enormous that it has been relegated to a table which requires a pocket in the book's cover to hold it. The third lecture treats of spasmodic dysmenorrhœa. The work, all in all, is a most excellent one, and deserves careful study.

Transactions of the Medical Society of the State of California. Session of 1891. Pp. 355. San Francisco: W. A. Woodword & Co.

The annual meeting was held in Sacramento last spring, and was of unusual interest owing to a large attendance and the excellence of the papers read. All of them are included in the book under review. They deserve careful reading and a place in the library. All branches of medicine are treated.

Les Fonctions du Cerveau. Doctrines de l'École de Strasbourg, Doctrines de l'École italienne. Par Jules Soury. Pp. 464, 8vo. Paris: Lecrosnier et Babé. 1891.

The author of this treatise has made an industrious study of the progress made in our knowledge of the functions of the brain in the past twenty years. M. Soury is not himself an anatomist but rather a critical scholar, and his work must be judged accordingly. It is particularly valuable in its account of the labors of the Italian physiologists. It will give the reader a good idea in general of our present knowledge of brain functions.

The book is one of a series of histories of the doctrines of contemporaneous physiological psychology.

A Manual of Practical Electro-Therapeutics. By Arthur Harries, M.D., and H. Newman Lawrence, M.I.E.E. Pp. 129. Illustrated. London: Sampson Low, Marston & Co.

This book is No. 3 of the "Nursing Record Series," and upholds the high standard achieved by its predecessors. The authors are leading electricians of the Institution of Electrical Engineers of London, and joint authors of several valuable books. This vouches for the accuracy and value of the work in hand. It treats of the subject in detail and in the simple manner that the beginner can understand. After excellent technical descriptions of apparatus the medical aspect of electricity is discussed. Indications for, and methods of, application are given, and the physiological action of the various currents are explained. A valuable list of books for reference and further study of the subject is also given.

Proceedings of the Connecticut Medical Society. New Series, Vol. IV., No. 4. Pp. 346. Published by the Society.

This valuable book is the report of the ninety-ninth annual convention of the Connecticut Medical Society, held at Hartford, May 27 to 29. 1891. It contains a great number of excellent papers by some of the best men in the medical profession. Articular rheumatism and Koch's lymph receive especial attention, as do likewise the various methods of treatment of pneumonia, scarlatina, and intestinal catarrh. The book reflects great credit on the secretary of the Society, Dr. N. E. Wordin, of Bridgeport, Conn.

The Fire Protection of Insane Hospitals By L. H. Prince, M.D., Resident Physician, Bellevue Place, Batavia, Ill. 4to, pp. 121. Chicago: C. H. Blakely & Co. 1891.

These pages contain some very timely advice on a most important matter. Dr. Prince shows that since 1850 nearly two hundred and fifty people have lost their lives by fire in American institutions for the insane. His chapters describe fire extinguishing apparatus, the alarm, the fire-brigade and its drill, with the utmost completeness. The rules which he has laid down will serve as a guide for the management of all large institutions of every kind.

Transactions of the Texas State Medical Association. Session of May, 1891. Edited by Dr. H. A. West, Secretary. Pp. 278. Galveston. 1891.

An attractive looking volume, covering the usual topics. Our distant brethren in the South have a most prosperous society.

A Curious Impressionability to Electric Lights.—Dr. John M. Currier relates, in the *Medical and Surgical Reporter*, an odd case of a girl, about nineteen years old, not subject to fainting spells on ordinary occasions, who always feels a peculiar sensation on entering a room illuminated with electric lights, but may not faint until she returns home, when an attack of heart-failure will come on and last an hour or more. She never can enter the presence of an electric light without feeling the heart-failure coming on. No other kind of bright light, however strong, has the same effect.

A Case of Death from the Proprietary Mixture Antikamnia is reported (*American Practitioner*). This drug is said to be composed of about eight parts antifibrin and two parts bicarbonate of soda.

Society Reports.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Seventeenth Annual Meeting, held in St. Louis, Mo., October 14, 15, and 16, 1891.

(Concluded from page 551.)

THIRD DAY, FRIDAY, OCTOBER 16TH.

Amputations with Regard to Artificial Legs. — MR. CHARLES TRUAX, of Chicago, read a paper (by invitation) entitled "Are Conservative Amputations Always in the Interest of the Patient?" He said that during the past quarter of a century the development of prosthetical science has advanced with a rapidity unprecedented in the history of the art. The first of the two great causes which stimulated this development may be found in the dreadful carnage and mutilation observed in the late civil war, which left thousands of veterans maimed by the loss of one or more limbs, for whom it was necessary to provide artificial substitutes. Experience and investigation had convinced him that the percentage of favorable cases can be largely increased, provided surgeons will familiarize themselves with the necessary mechanism of ordinary artificial legs and the relations existing between them and the stumps on which they are to be worn and select their point of amputation accordingly.

From a statistical point of view he finds that out of 2,135 tibial amputations reported as being performed between the years 1885 and 1891, 90.7 per cent. resulted in healthy stumps; 3.1 per cent. of stumps upon which compensative appliances could not be worn. Of these tibial cases, 962 were seen by the surgeons after they were wearing, or had attempted to wear, an artificial limb, 86.9 per cent. of which walked with an easy movement and a comparatively graceful step. Of 658 tarsal and tibio-tarsal amputations reported at the same time, 82.7 per cent. resulted in sound, healthy stumps; 8.3 per cent. underwent re-amputation; while 3.2 per cent. died, leaving 14 per cent., including re-amputation, upon which prosthetical apparatus could not be worn. Of this class of cases 169, seen after attempting the use of compensative appliances, 54.4 per cent. could walk well.

If we can judge from the foregoing statistics, in over 100 cases of each of these classes of operations, we may reasonably expect the death loss to be in favor of tarsal operations as 5o to 3.2 per cent.; while the ratio of re-amputations necessary will be in favor of tibial amputations as 8.3 is to 3.1. He recommended surgeons to avoid amputating within three inches of the knee-joint, or between the metatarsal bones and the junction of the lower and middle thirds of the tibia. At all other points they should save all they could, and then they will have done, in every case, the best for their patients.

DR. HENRY H. MUDD, of St. Louis, read a paper on "Intestinal Obstruction," in which he advised early operation.

The Thermometer in Abdominal Surgery.—DR. C. H. DALTON, of St. Louis, read a paper entitled "Temperature No Guide in Peritonitis." So sceptical had he become on the subject that in considering the advisability of an operation in abdominal cases he was no longer guided by the thermometer. He always took the temperature in all cases, but did not let the lack of fever influence him against operation when other symptoms upon which he had learned to place far more reliance would move him in the opposite direction. Surgeons found it difficult to convince the average physician that a violent peritonitis may exist with a normal, or even subnormal temperature, for the teaching by some has heretofore been that sepsis is always accompanied by an elevated temperature.

Several weeks since he was called in consultation in a case of intestinal obstruction in which peritonitis was in full blast. He advised operation and was met with the objection that there could not be much peritonitis with a temperature of 99.5° F. He pointed in vain to the patient's anxious countenance, to the great tenderness on pressure, a distended belly, the vomiting, the pulse, as well as to the fact that purgatives had been tried without avail. The doctor in attendance insisted upon one more dose of salts. It was given. It did not move the bowels, but did move the patient to that place from whence no traveller returns. Time and again he had seen cases of intestinal obstruction with stercoraceous vomiting, rapid pulse, anxious countenance (facies abdominalis), in which the temperature was about normal or even subnormal.

In his earlier experience the lack of fever in abdominal cases puzzled him very much and led him astray in a number of instances. While it is well to remember that fever when present in these cases indicates peritonitis, its absence does not warrant us in saying that peritonitis is not present, and should not blind us as to the actual condition.

Sarcoma of the Dorso-scapular Region.—DR. GEORGE N. LOWE, of Randall, Kan., read a paper on this subject. He reported a case upon which he had operated, the patient, a youth, aged eighteen years, with no history of tuberculosis, carcinoma, or sarcoma, recovering. The object of the paper was to show: 1, The necessity of an early operation in all cases of a malignant growth; 2, that some species of sarcoma are more rapid and destructive in their course than carcinoma, especially the spindle and giant-celled variety; 3, the necessity of having a law to enforce patients so afflicted, as soon as a correct diagnosis can be made, to an early operation, thereby preventing great suffering and prolonging life; 4, that in a sarcoma which has grown to an enormous extent, infiltrating the surrounding tissue at any considerable extent from the main growth with cell proliferation, an operation is almost useless as regards a permanent cure.

Perityphlitis.—DR. W. H. LINKE, of Petersburg, Ind., read a paper on "Appendicitis," and offered the following therapeutical suggestions: "In the commencement of the attack give salines often and liberally till the gut is completely emptied. Advise perfect rest in bed. Forbid any but liquid nourishment. If pain is severe apply counter irritation and dry heat till salines act. If the patient improves, wait. If the pulse grows worse, if the temperature rises, if the pain increases, if the tumefaction becomes larger, if tenderness becomes more marked, operate. At no time give morphine, but consider an increase of pain sufficient to demand relief by opium an imperative, unequivocal, and emphatic indication for surgical interference."

Rheumatism and Gout as Factors in the Causation of Eczema, and the Management of those Conditions, was the title of a paper contributed by DR. A. H. OHMANN-DUMESNIL, of St. Louis. He did not purpose speaking of the etiology of eczema. The only phase which he desired to take under consideration was, in how far rheumatism and gout were concerned in the causation and prolongation of eczema, and what was the proper management of those conditions in order to derive the greatest benefit, so far as the cutaneous involvement is concerned. Naturally this implied that he was about to sustain the position that the conditions named were etiological factors, and such was probably the case. If we took the trouble to examine critically the history, condition, treatment, and results in patients, a mass of evidence would be found which, if it did not constitute absolute proof, bore so much weight with it that the probabilities would all tend to confirm and strengthen the position that rheumatism and gout prolong, intensify, and even cause eczema. He had quite frequently also noted the fact that an acid condition was present in eczematous patients. It occurred too frequently to be regarded as a coincidence. Moreover, a correction of this acid condition finds its good effects reflected in the ease with which the cutaneous trouble gave way to proper medication. Whether

such cases were inclined to rheumatism or gout it was difficult to say; but that an excess of acid was found in all of these conditions there was no opportunity of denying. For, if eczematous patients were interrogated in this respect a large proportion of them would speak of acid eructations, pyrosis, and other evidences of the condition.

In regard to the management of gout and rheumatism volumes had been written, and equally good results had been claimed for different methods of treatment. The most powerful alkali to affect the solubility of uric acid was, beyond all doubt, lithia. The urates of that alkali are the most soluble known, and, on that account, a better elimination can be secured. Potash salts rank next in value in regard to their solvent value upon uric acid. The soda salts, while exercising a good influence, are not as valuable in this respect as either of the others; and the magnesia salts are the least effective.

Dr. Enno Sander, of St. Louis, had prepared his well-known lithia-potash water, which fills all the indications required, and which acts not only as an anti-rheumatic, anti-lithic, and anti-gouty mixture, but constitutes a grateful table-water as well. It not only acts as a curative remedy, but, what is of still greater importance, it is a reliable prophylactic. Its composition is as follows:

℞. Lithium bicarbonate	gr. xiij.
Magnesium bicarbonate	gr. x.
Potassium bicarbonate	gr. xvj.
Sodium chloride	gr. x.
Carbonated water	℥ xvj.

M. This quantity, one pint, should be taken daily, or the amount increased if deemed necessary.

Conditions occasionally arise in which it will be found that a mixture of salicylate of soda and bicarbonate of soda will effect the happiest results in rheumatism, and occasionally in gout. Given in carbonated water the administration is made pleasant, and the mixture has an effect upon the patient which is refreshing at the time it is taken, and which effects beneficial results in a very short time. When eczema is present the proper local remedies should be applied, and it is astonishing how their action will be accentuated by the internal use of the alkalies as indicated above.

Observations on the Management of Uterine Tumors.—Dr. C. A. L. Reed, of Cincinnati, O., read a paper with this title, in which he said that there are certain solid tumors of the uterus that require no operation. They are for the most part comparatively small neoplasms, either interstitial or subserous; they are indolent in growth, and they do not produce alarming symptoms from either pressure or hemorrhage. There are certain other myomata of the uterus that are uniformly recognized as demanding operation. They are for the most part rapidly growing tumors in young subjects; removable fibro-cystic tumors; soft œdematous tumors; large bleeding fibroids, and those growths which give rise to ascitic accumulations.

Dr. Reed offered the following conclusions: 1. That all persistently hemorrhagic uterine myomata, of whatever variety, should be advised to early operation. 2. In young subjects, with multinodular tumors giving rise to alarming hemorrhage, the appendages should be removed when practicable as an alternative for extirpation. But the latter operation should be done whenever the character of the growth will permit of its removal by dangers less than those which would be involved by its continued existence. 3. To those tumors already recognized as demanding operation should be added those of uterine development that are liable to dangerous constriction by the uterine walls and in which their destruction by this means might induce sepsis. 4. All cases of subserous growths, indolent, yet progressive in character, in which the tumor has become a menace to neighboring organs, should, whether hemorrhagic or not, be advised to exploratory incision with reference (1) to removal of the appendages, or (2) of the neoplastic organ. 5. All growing tumors, occurring in women beyond the menopause, should be removed, if possible, by vaginal total extirpation, or, if that be impracticable, by abdominal section. 6. All distinctly operable cases demanding interference should be advised to submit to operation at the earliest practicable moment.

The Etiology and Treatment of Granular Conjunctivitis.—This was the title of a paper contributed by Dr. Francis Dowling, of Cincinnati, O. The author stated that the great rôle which the disease plays in the causation of blindness renders its successful treatment one of the great disiderata of our day. Its great hot beds are in some of the countries of the Orient, owing to the prevalence of whirlwinds of sand and the intense heat and glare of the sun. The malady attacks by preference the poorer classes; the rich and well-fed enjoy a comparative immunity from the disease. It is more frequent in persons between the ages of fifteen and forty-five, and children under six rarely have the disease. It does not become epidemic at a height of over two hundred and fifty metres above the sea level, and it loses its contagious character at this height. Low regions and swamps favor its spread. It is highly contagious; probably three-fifths of the blindness throughout the world is directly or indirectly due to this disease. There is often some special liability on the part of certain individuals to the contraction of the disease, owing to the presence of a special diathesis, or otherwise.

As to the treatment, he had had more success by touching the lids with the mitigated stick of nitrate of silver and then immediately washing it off than with any other remedy. He applies the treatment usually twice a week, and on the intervening days he rubs in an ointment composed of yellow oxide of mercury and atropia. He also corrects any trouble of refraction that may exist, for unless this is attended to the disease will persist under all kinds of treatment.

The disease is now treated in Paris by completely everting the lid and scarifying the granular tissue, then rubbing in with a stiff brush a one to five hundred solution of bichloride of mercury. Cases are cured in this way in four to six weeks that formerly took several years to cure with the old treatment. In outbreaks of the disease in orphan asylums, barracks, etc., the afflicted should be completely isolated from the healthy inmates, and their apartments should be kept absolutely clean and fumigated with burning sulphur at least once a week.

Portal on Placenta Prævia.—Dr. John Bartlett, of Chicago, presented a paper in the form of a review of an obstetrical work, published in Paris in 1682 by Paul Portal. He said the older members of the profession had for years rested in the opinion that it was Paul Portal to whom obstetrical science was indebted for the discovery of the fact that in placenta prævia the after-birth was attached to the womb, and had not simply fallen down over the os, as was taught by writers before his day.

Stricture of the Urethra.—Dr. G. Frank Lydston, of Chicago, followed with a paper on this subject. He was opposed to the general belief prevalent among surgeons that the long duration rather than the severity of a virulent urethritis determined the development of organic stricture. It is not the long continued urethritis that produces a deposition of the adventitious tissue constituting organic stricture. On the contrary, a chronic localized urethritis exists because the stricture or the foundation of it has been determined at some portion of the urethra by the primary virulent inflammation. He claimed that the liability to the formation of organic stricture is directly proportionate to the severity of the primary inflammation. The localization of stricture, the author insisted, was not due, as Sir Henry Thompson and his school assert, to an obstruction to drainage and the retention of the products of virulent inflammation, but to deficient elasticity or distensibility of the canal at certain points. The conditions determining stricture he compared to those prevailing in

a rubber tube about which cords are tied in such a manner that while some actually constrict the tube, others simply prevent its distention. If fluid be pumped through a rubber tube thus constricted or restricted, as the case may be, under a certain degree of hydrostatic pressure, friction occurs at these points. The epithelium is rapidly removed, its vitality being impaired by the virulent poison of urethritis. By and by rapid removal and re-formation of epithelium becomes a cell habit, the resulting formation of cells being of a low grade of inherent vitality. In addition to this change upon the surface of the mucous membrane there are deposited young connective tissue cells in and about the affected point, the result of an attempt on the part of nature to secure rest and prevent strain. These cells the author likened to sand-bags thrown up to prevent a breach in a fortification.

The doctor called attention to a number of interesting reflex phenomena incidental to stricture of the urethra, and referred at some length to the various toxæmic conditions incidental to renal disturbance secondary to stricture, and to that peculiar form of toxæmia incident to the absorption of ptomaïnes from the site of the urethral lesion. He denied the possibility within the limits of safety of using electrolysis in the treatment of organic stricture. He condemned the routine and extreme claims of Newman, and also the other extreme, as represented by Dr. Keyes, who asserts that galvanism, *i.e.*, so-called electrolysis, has absolutely no effect. Dr. Lydston claimed that the effect of galvanism upon organic stricture of the urethra was the same in its physiological character as upon healthy or morbid tissue in any other situation. The author described what he terms *plus* conditions of organic stricture. Thus we have engrafted upon the organic foundation varying degrees of hyperæmia, spasm, and œdema, one or all. These *plus* conditions, he claimed, galvanism, properly applied, would subtract from the organic condition in certain cases, and in so far as this effect was marked the stricture would be benefited. The author denied the possibility of the galvanic current producing absorption of fibro-connective tissue, after it has arrived at the acme of differentiation, by any current which will not destroy the mucous membrane itself; in other words, we cannot control the galvanic current so that it will exert a selective action and remove the abnormal tissue while sparing the normal tissue.

Election of Officers.—The following officers were elected: *President*, Dr. C. A. L. Reed, of Cincinnati, O.; *First Vice-President*, Dr. C. S. Bond, of Richmond, Ind.; *Second Vice President*, Dr. Thomas Hunt Stucky, of Louisville, Ky.; *Secretary*, Dr. E. S. McKee, of Cincinnati, O.; *Chairman of the Committee of Arrangements*, Dr. Joseph Ransohoff, of Cincinnati, O.

Place of next meeting, Cincinnati; date of next meeting, October, 1892.

Medical Practice in Japan.—The total number of physicians in Japan at the end of 1888 was 40,940; an increase of 61 as compared with the previous year. At the end of 1889 the number was 41,405, which is an increase of 465 as compared with the previous year. This increase is, however, only apparent, as, in proportion to the increase in population of the country there is a falling off in the number of physicians. The total number of midwives at the end of 1888 was 30,860, which was an increase of 997 as compared with the previous year. At the end of 1889 the number was 32,111, which was an increase of 1,251 as compared with the previous year. When compared with the several previous years there is seen to be a gradual but steady increase year after year. The number of hospitals in 1888 was 504, an increase of 48, of which 1 was public and 47 private, as compared with the previous year. In 1889 the number was 573, of which, public hospitals had increased by 3, and private hospitals had increased by 12, as compared with the previous year.—*Sei-I-Kwai Medical Journal*, September 26, 1891.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE HARVEIAN ORATION AT THE COLLEGE OF PHYSICIANS—A DYNAMIC THEORY OF RENAL DROPSY—CORROSIVE-SUBLIMATE BATHS IN THE TREATMENT OF COMPOUND FRACTURES INTO JOINTS—SIR GEORGE HUMPHRY ON THE NEW PATHOLOGY.

LONDON, October 24, 1891.

THE oration in honor of Harvey, delivered at the College of Physicians on Monday last, was the 173d of the series. Following 172 previous annual addresses on the same subject it would be unreasonable to expect from the speaker any new material respecting Harvey. On the present occasion, after giving some account of Harvey's personal history, his work, and the time in which he lived, Dr. Dickinson, the orator for this year, proceeded to speak of the results of Harvey's discovery. These were at first not beneficial to medicine and harmful to Harvey, for his practice "fell off mightily." Dr. Dickinson suggested that two observations applied to Harvey's discovery, and to many others, viz., 1, that practice advanced independently of science, and often anticipated its conclusions; 2, that what had been established by practice would hold its ground after the introduction of scientific knowledge by which it should have been abolished. There were many examples of the first of these. Thus, suction-pumps, as Sir George Paget observed, had been at work for hundreds of years before Torricelli showed the true cause of the suction. Gunpowder was invented five centuries before anything was known of oxygen, carbon, or the laws of combustion. Not only was venesection in use before the circulation was understood, but the arm was constricted above the puncture. Transfusion of blood was certainly practised in 1615. Of the second, among the examples cited by the orator were the following: The practice of the second century was still seen in the leeching of the hypochondrium to deplete the liver, though there was no way through; we still cupped the back to deplete the lung; we cupped the loins to relieve the kidneys, and if we succeeded in finding a few insignificant vessels connecting the capsule with integuments, we rejoiced over them, and flattered ourselves that we were the disciples of tradition and science too. Dry cupping furnished another instance of a practice which had survived the theory on which it was based; it apparently had its origin in the ancient belief that the arteries contained spirit which could transpire by the skin.

The first important result of Harvey's work was the completion of it by the discovery of the capillary system by Malpighi, who was born in the year in which Harvey published his famous treatise. The first improvement of immediate utility directly resulting from Harvey's work was the invention of the tourniquet, by which arteries were compressed as distinguished from the veins. Then came John Hunter's operation for aneurism—tying the artery between the sac and the heart. Then, to take no note of lesser advances, auscultation came. Next came the knowledge of the course of emboli. Another Harveian development had no narrower limits than the whole extent of inflammation, or at least as much of it as concerned the capillaries. Dr. Dickinson remarked that were he to look only at a portion of the field presented, and dwell upon the changes in the heart and arteries which Bright in part discerned, and which Johnson, Gull, and Sutton had done so much to amplify and elucidate, he should find enough to show that Harvey had worthy successors in his own college.

The orator then proceeded to speak of dropsy in connection with the Harveian scheme. It was not needful, he said, to remind his audience that many forms of dropsy were simple consequences of impediments to the circulation, and required nothing more than a knowledge of the

course of the blood for their complete explanation. But he would adventure further and endeavor to show that renal dropsy, generally credited with a totally different mode of production, had its association with those which were purely mechanical, and was connected with the attitude of the blood-vessels as well as with the chemistry of their contents. Some forms of dropsy were obviously connected with exaggeration of intravascular pressure. He would endeavor to show that renal dropsy was dynamical as well as chemical, and that it was associated with arterial pressure as the others were with venous, as immediately, though not *ab initio*. Over-transudation, such as occurred in renal dropsy, might be hypothetically attributed to three causes—osmosis or dialysis, filtration from pressure, and, as Dr. Waymouth Reid would infer, an action on the part of the blood-vessels analogous to secretion. Where filtration ended and secretion began would be a difficult question to answer, if both were concerned. The secretive theory had been resorted to in consequence of the apparent inadequacy of osmosis to explain the phenomena in question, but it could not be doubted that the paramount agent in moving the liquids of the body, whether along tubes or through their walls, was pressure.

If we looked at the character of the effusions in different kinds of dropsy, certain broad facts presented themselves which appeared to have significance. The chief components of such effusions differed from each other as crystalloid and colloid, the salts crystalloid and highly diffusible, the albumin colloid and slightly diffusible, except under pressure. Under osmosis salts should transude without albumin, under pressure both together. Now whatever the cause of the dropsy, the effusions in the same place were essentially the same. The effusions varied much with situation, little with disease; those into the serous cavities were always rich in albumin, those into the cellular tissue, poor in albumin with equal constancy. When renal dropsy set in the urine was usually below par, but the relation of dropsy with the quantity of urine was not constant enough to explain the process. With obstructive suppression dropsy was usually totally absent, while it was frequently present under the diuresis of diabetes. Anæmia had been thought to be concerned in renal dropsy, but we often saw intense and even fatal anæmia ("pernicious") without any such effusion. With obstructive suppression arterial tension was conspicuously wanting, while death occurred by asthenia or syncope. Low blood-pressure, with no dropsy where it might otherwise be expected, was at least suggestive of the need for more facts. In acute nephritis, where the urine was only scanty, not suppressed, we saw high blood-pressure, and together with this dropsy. Want of urine did not alone and of necessity cause renal dropsy; increased arterial tension would seem to be a necessary intermediary, at least of this variety of it. Such increase of tension, beginning with the earliest stage of nephritis, accompanying the œdema and increasing with it and the disease, had long attracted notice. A conclusive proof of its presence was the hypertrophy of the left ventricle, even in the acute forms of the disease. Hypertrophy of the left ventricle and of the muscular coat of the arteries must be equally accepted as evidence of an obstacle ahead. Where was the arterial exit impeded? Renal dropsy, presumably, depended on excess of exudation, not deficiency of absorption; this could scarcely occur elsewhere than from the capillaries, whose walls alone were adapted to the process. If the primary obstacle were in the arterioles, the blood must be in a measure shut off from the capillaries, the pressure on them reduced, exudation from them lessened, and the view of renal dropsy he was about to submit abandoned. It had been urged that the capillaries were not muscular, but it had been shown by Roy and Graham Brown that they were contractile; we could not doubt, also, that the blood might acquire peculiarities which added difficulty to its transit. That the obstruction was beyond the radial artery was sufficiently proved by the fulness of that vessel; that it was beyond the minute arteries of the retina and brain was shown by their often bursting from the pressure to which they were subjected by their contents. We had no choice but to go further and attribute the impediment to the capillary system, whether from change of blood *per se* or from vascular contraction engendered by it. With stoppage in front and accumulating systolic force behind, increase of transudation would seem to be inevitable. Whatever the nature of the hindrance in the capillaries, we might presume from the phenomena of inflammation that it was consistent with an increase of transudation from them.

In the later stage of renal dropsy the action of the heart and arteries had also to be reckoned with. As their hypertrophy increased the effusion tended to lessen. This was at first sight difficult to reconcile with the early increase of dropsy. But the arterial thickening could not fail to obstruct the access of blood and dam it back in the heart and large vessels, with the result of increased tension and increased cardiac hypertrophy. Now look for a moment at the left ventricle with its solid, thick wall and the comparative smallness of its cavity as yet undilated. The smaller the cavity in relation to the thickness of the wall the greater the rigidity of the chamber and its consequent expansile power. The suction thus exaggerated must tend to pump out the waterlogged tissues by drawing first upon the lungs, then upon the systemic veins and their tributaries. Later still, the hypertrophied ventricle began to stretch, and then lost, not only expansile power, but valvular adaptation. Dropsy reappeared or increased, and was now as much cardiac as renal. Mitral regurgitation ensued through the widened orifice, though the valves might be healthy, and a murmur was often heard which might mislead the unwary as to the origin of the disease: as a more striking consequence pulmonary apoplexy with hæmoptysis presented itself as a direct and simple issue of the cardiac changes of advanced renal disease.

On the evening of the same day the first meeting for this season of the Medical Society of London took place. Dr. Douglas Powell gave a short presidential address. Mr. Mansell Moullin then read a paper in which he advocated the treatment of compound fractures into joints by immersing the injured part in a bath of corrosive sublimate at the temperature of the body. If the accident were recent and the wound clean, the strength of the solution should be 1 in 10,000, with a few drops of hydrochloric acid added, and two hours' submersion night and morning would be sufficient. If, on the other hand, the injured part was foul, or some time had elapsed and inflammation had already set in, the bath should be continuous, night and day, for forty-eight hours, and the strength of the solution should be 1 in 1,000 for the first two. Over thirty primary cases of severe injury had been treated in this way with perfect success, except in two instances, in both of which the failure was traced distinctly to an escape of sewer-gas. Almost the same could be said of the secondary cases, but in one, in which a period of five days had been allowed to elapse, a secondary abscess formed (without a rigor or other sign of pyæmia) in the iliac fossa on the opposite side of the body. Professor Bahadhudji, of Bombay, read a paper on the "Treatment of Dysentery."

Almost all the societies have now commenced work for the winter. The Pathological Society commenced their labors on Tuesday evening last, the regular business being preceded by a short address from the President, Sir George M. Humphry. He expressed approval of the enlargement of the scope of the society. Solidism and Humoralism, he said, had ceased to attract, and we were now between the two, in the borderland of minute, almost imperceptible, chemical and microscopical changes. Hitherto we had regarded pathology as advanced physiology, and morbid processes as a modification of the processes of healthy nutrition; but we were now advancing into a region beyond the actual processes

of healthy and morbid nutrition, into the wide field of the causes of the morbid processes. The property of certain diseases to give immunity against themselves was replete with interest and seemed to have a wide range of influence. It had its illustration in one way in vaccination, and it was remarkable that this kind of illustration should so long have stood alone, though certainly that was less remarkable than that its protective power against small-pox should have been doubted by reasonable and observant persons, or that it should be supposed that so great a good should be conferred without any attendant evil. Was it in such immunity-giving property that the secret of the influence of counter-irritants lay? Some such effect (caused by absorption of the altered proteids in a blister) had been hinted at by Dr. Brunton.

WATER AS A LOCAL ANÆSTHETIC—ITS DISCOVERY AMERICAN AND NOT GERMAN.

To the Editor of the Medical Record.

Sir: For some time past an item has been going the rounds of the press, both medical and lay, in this country, to the effect that a German surgeon, Dr. C. L. Schleich, has recently shown, by experiments upon himself and his assistants, that water is a local anæsthetic, when injected hypodermatically. This first appeared, I believe, in the *Deutsche Medizinische Zeitung*, No. 66, 1891. The Medical Record, among other journals, a month or so ago briefly mentioned it.

I have waited since then, expecting as a matter of course that someone would come forward to correct the idea that this discovery is anything new; for many physicians besides myself must know that it is an old story.

In 1885 I called on Dr. William S. Halsted, then of this city, now Surgeon-in-Chief at the Johns Hopkins Hospital in Baltimore. I was at that time making some investigations in regard to local anæsthetics, and Dr. Halsted was better informed than myself.

In the course of our conversation Dr. Halsted remarked that he had recently been using water by the hypodermic needle as an anæsthetic for small operations, and with success; that only the day previous he had employed this method in the removal of a small tumor from a patient living on the same block in which his office was situated; and that he had found that this plan succeeds best when the water is thrown into the skin, not beneath it; in other words, that the more superficial the incision is to be, the more satisfactory will be the anæsthesia by water.

I was much interested in this statement of Dr. Halsted's; and in order to satisfy my curiosity as to just how the water obtunded sensation, made a few experiments upon my own person. It occurred to me that possibly the anæsthesia might be mechanical only, and due to pressure, by the water, upon the sensory nerve-endings. In one of these experiments I tried to produce an equal or greater amount of pressure by another means, and then see whether sensation was abolished thereby. Dr. F. A. Manning, of this city, assisted me on this occasion. A hypodermic needle was attached to the tube leading from my compressed-air receiver, which had been pumped to a 40-pound pressure. This needle was now inserted beneath the skin of my left forearm, and the tap turned on slowly. The air distended the subcutaneous cellular spaces and then stretched the skin to tenseness and the production of very considerable increase in circumference of the limb. We continued until the crackling feel of subcutaneous emphysema could be noted, on pressure, from the fingers to and including the shoulder; and the skin of the forearm felt to me almost as tight as a drum-head.

The æsthesiometer was used both just before and upon concluding this experiment; and, briefly, it was shown that while some numbness was produced, the sensation was not enough abolished to permit of a cutting operation without pain; and that water probably has an analgesic property of its own.[1]

As an additional evidence that the idea of analgesia from subcutaneous use of water is nothing new, I quote the following passage from Bartholow's "Materia Medica," 5th edition, 1885, p. 690; subject, Aquapuncture: "It is a remarkable circumstance that aquapuncture has the power to relieve pain in a superficial nerve. So decided is this effect that there are physicians who hold that the curative effect of the hypodermatic injection of morphine is due, not to the morphine, but to the water!"

Very respectfully,

Robert H. M. Dawbarn, M.D.

AN ABUSE OF POSTAL PRIVILEGES.

To the Editor of the Medical Record.

Sir: In mailing the circulars of the Bellevue Hospital Medical College for 1891–92 from a list in the possession of Messrs. William Wood & Co., one was mailed to Dr. C. A. Dreis, 1401 Mitchell Avenue, St. Joseph, Mo., with a one-cent stamp, as usual. This circular was returned "unclaimed." When sent to the Post-Office in New York, the wrapper was properly stamped and contained nothing but the circular. When returned an additional one-cent stamp was on the wrapper and both stamps had been cancelled. The wrapper when returned contained a pamphlet on "Nervous Prostration," one on "Leucorrhœa," and one on "Threatened Miscarriage," all issued by one and the same house in St. Louis, Mo. These advertising circulars, "For the Medical Profession Only," were put into our wrappers while the matter was in charge of the Post-Office Department. They added to the weight of the package so that another stamp was required, which was attached and cancelled. The College is put in the position of indorsing the proprietary remedies for nervous prostration, leucorrhœa, etc., to the extent of sending the circulars in its own wrappers. What sort of an offence this is under the postal laws I do not know, but it is the most outrageous example of effrontery on the part of proprietary medicine venders that has ever come to my notice.

Austin Flint, M.D., *Secretary*.

October 30, 1891.

THE CHLORIDE OF GOLD CURE FOR INEBRIETY.

To the Editor of the Medical Record.

Sir: I have received several requests to give the readers of the Record my views of the bichloride of gold excitement. As this subject has only a psychological interest the limits of a brief note will be sufficient.

Practically, the bichloride of gold is a therapeutic nihility. So far, the best authorities agree that any form of gold is inferior to iron as a medicine. Any physician can show that a combination of cocaine, strychnine, and atropia, or other similar drugs, used hypodermically, will effectually check the craze for spirits. As long as it is given two or three times a day, all forms of alcohol will be distasteful, and abandoned under all circumstances. This is simply chemical restraint, which is well understood in all the insane, inebriate, and private asylums of the country. The permanent cure or restoration of these complex insanity cases, in three or more weeks, by chemical restraint, is startling, to say the least.

The extraordinary confidence of permanent cure, and the almost enthusiastic delirium to make it known, by the persons who have taken this treatment, is not only startling, but unknown in the history of other diseases.

Psychologically, this unusual interest marks a distinct stage in the advance of every great truth. The statement that inebriety was a disease and curable, has passed the stage of denial and opposition, and come to the

[1] For further details, see my article on Surgical Emphysema, in Wood's Reference Handbook, vol. ii., p. 678.

second period of credulity. This is the time for specific remedies, and the opportunity for the quacks and camp-followers of science, who, recognizing the demand for help and the confusion of facts and theories, take advantage of the situation for the most selfish purposes.

By and by this period of credulity will be followed by a scientific era of organized fact, in which specifics and extravagant claims will disappear. The bichloride is only one of more than a dozen different remedies on the market, and advertised as specific cures of all forms of inebriety. All these remedies are sustained by innumerable certificates of clergymen, editors, and cured patients, and even physicians' names appear as references. Two facts seem to be very prominent in this bichloride movement. One, the intense interest of the public in any possible therapeutic measures that will check inebriety and relieve or cure the victim. The other, the dense ignorance and consequent credulity manifest for the remedy or method of treatment that by shrewd advertisement becomes most prominent.

The nature and value of alcohol and its effects on the body have, during the present year, been more widely discussed in medical circles than ever before. Political parties, societies, and churches have all manifested unusual interest in this topic. Public sentiment has passed beyond the realm of the exclusive use of moral remedies, and with childish expectancy is ready to welcome any mysterious medication that promises unusual and positive results. No matter what remedies are proposed, or theory advanced of their action, they are accepted, simply on the statements of non-experts and enthusiasts.

Thus one remedy follows another in regular succession, until the period of credulity and empiricism is replaced by one of scientific research. Inebriety is a complex insanity, involving borderland questions and ranges of causes that are unknown to the most advanced students of medicine and psychology. Exact theories and exact remedies are always reflections of the ignorance of the authors.

The same great principles of scientific truth obtain here as elsewhere. There are no "short cuts," no miracles, no discoveries that grow on mystery. Great facts and truths are never found except along great trunk lines of research, where they can be verified and confirmed by critical experience and study.

Yours,

T. D. CROTHERS, M.D.

HARTFORD, CONN., November 11th.

Navy News.

Official List of Changes in the Medical Corps of the United States Navy for the week ending November 7, 1891.

SIMONS, MANLY H., Surgeon. Ordered to the Mohican.

DUBOIS, FRANK, Medical Inspector. Ordered to the Philadelphia.

WOOLVERTON, T., Medical Inspector. Detached from the Philadelphia, and ordered before Retiring Board.

BLACKWOOD, N. J., Assistant Surgeon. Detached from the Newark, and ordered to Navy Yard, League Island, Pa.

BROWNELL, C. DEW., Assistant Surgeon. Detached from Navy Yard, League Island, Pa., and ordered to the Newark.

LEACH, PHILIP, Passed Assistant Surgeon. Detached from the Naval Academy, and ordered to the Monocacy.

PAGE, JOHN E., Assistant Surgeon. Detached from the Independence, and ordered to the Iroquois.

FIELD, JAMES G., Assistant Surgeon. Detached from Bureau of Medicine and Surgery, and placed on waiting orders.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 31, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	30	14
Scarlet fever	79	11
Cerebro-spinal meningitis	2	2
Measles	41	3
Diphtheria	113	41
Small-pox	0	0
Varicella	0	0
Pertussis	0	2
Erysipelas	1	0
Mumps	1	0
Rötheln	0	0

Action of Urea on the Vascular Walls.—Dr. Munk, several years ago, on perfusing blood to which urea was added through a surviving kidney, found that the addition of urea accelerated the blood stream, and increased the secretion from the kidneys. This result was also produced by sodic chloride, the sulphates and phosphates of the alkalies, creatin, sugar, creatinin, and other substances. The vaso-dilator action of the urea on the kidneys was not due to the action of the urea on the central nervous system, for it occurred in the excised and still living kidney. Cavazzani and Rebustello have made somewhat similar experiments by perfusing blood mixed with urea through several organs, but in all cases the organs or parts were left *in situ*. The fluid perfused was 1 part of bullock's blood mixed with 2 parts of normal saline solution (0.75 per cent. common salt). The animals employed were dogs, cats, and rabbits. The quantity of urea added to the blood varied from 0 5 per cent. to eight per cent. as a maximum. Urea possesses a marked vaso-dilator action not only on the blood-vessels of the kidney, but also on the vessels of the brain, liver, and musculo-cutaneous vessels in the last case, as shown by its action on the blood-vessels of the hind limbs. Speaking generally, the vaso-dilator action of urea is directly proportional to the quantity per cent. of urea present in the blood. The minimum percentage of urea required to cause vaso-dilatation is for the kidneys 0.5 per cent., and for the other organs mentioned one per cent. In opposition to Munk, the authors have never observed a secretion of true urine during their experiments.— *The British Medical Journal.*

La Independencia Médica, an esteemed contemporary of Barcelona, celebrated its twenty-seventh anniversary on the first of October just passed. This journal is one of the most welcome of our Spanish exchanges, and we congratulate it upon its well-merited prosperity, and wish it *ad multos annos.*

Free Medical Attendance.—At the recent session of the German Socialist Congress, held in Erfurt, a new and revised platform was adopted, one plank of which demands "free medical assistance, including attendance at childbirth, free medicine, and free disposal of the dead." We do better than that in New York, for we not only give free medical assistance and free medicine, but also sometimes, if it happens to be an interesting case and several clinics are after it, a free ride to and from the dispensary. This is truly the home of the free.

The Influenza is still epidemic in several places in Russia, among others, Nijni-Novgorod, Warsaw, and Kiev.

The University of Vienna.—The number of medical students at the University of Vienna last summer was 2,427, and of these 348 were foreigners of various nationalities. The numbers have considerably fallen off as

compared with the previous winter, when there were 3,242 students in the medical department. In the summer semesters immediately preceding that of 1891, the numbers of medical students had been respectively 2,296, 3,185, 2,553, 3,105, etc. There has also been some diminution in the number of foreigners attending the school.

Rachitis is stated by Dr. Angel Conteras, in the *Boletin Médico de Puebla*, to be a very rare disease in Mexico.

A Case of Traumatic Tetanus Cured by the Antitoxine of Tetanus, is reported by Dr. Schwarz, in *La Riforma Medica* for October 15, 1891. The case was treated by Drs. Tizzoni and Cattani, and is the second one that has been cured by this antitoxine.

Doctors have the Right of Way.—An ordinance has recently gone into effect in Berlin which will give the right of way to carriages of physicians driving through crowded streets. In order to distinguish doctors' carriages from others the coachmen will wear white hats.

The Welz Prize.—At the meeting of the German Ophthalmological Society, held at Heidelberg, from September 14th to 16th, the Welz prize for the best paper published in *Von Graefe's Archiv für Ophthalmologie*, in the years 1887, 1888, and 1889, was awarded to Professor von Hippel, of Königsberg, for his essay entitled "A New Method of Cornea Transplantation," which was published in Bd. xxxiv., Abth. 1. This is the sixth time the prize has been awarded.—*British Medical Journal.*

The Doctors were Needlessly Scared.—The physicians of Bavaria did not approve of railroads, and on the occasion of the opening of the first railway in that country, according to the *Bulletin of Pharmacy*, the Bavarian Medical Faculty denounced the innovation as follows: "Conveyance by means of carriages propelled by steam ought to be prohibited in the interest of public health. For the rapid motion cannot fail to create a disease of the brain among the passengers, which may be classed as a species of *delirium furiosum*. Even if travellers are prepared to run the risk, the onlookers ought by all means to be protected. The mere sight of a passing train suffices to cause the same cerebral disorder. Wherefore the authorities should insist on having a palisading of thick boards, at least five feet high, placed on each side of the permanent way."

Getting Ready for the World's Fair.—The increase of typhoid fever in Chicago is beginning to attract attention. The cause is said to be the low water in Lake Michigan, and the exceeding foulness of the river. Efforts have been made to divert the current of the river from the lake, and pumps erected to convey the water off into an affluent of the Mississippi system; but the plant is deficient. When the waterway to Lockport has been completed some relief is expected. Meanwhile Chicago must move in the matter if she expects to avoid the unenviable notoriety that Philadelphia obtained from her Centennial typhoid epidemic.—*Times and Register.*

A Five-Thousand Dollar Prize for African Medical Exploration.—The King of the Belgians has just announced his intention to give a prize of a thousand pounds for the best work upon the following questions: First, to point out from a sanitary point of view the meteorological, hydrological, and geological conditions of the districts of equatorial Africa. Secondly, to deduce from the knowledge in our possession the principles of hygiene necessary to be observed in these districts, together with facts showing the best mode of living, forms of diet, and occupation, and the most expedient methods of clothing for the purpose of preserving health and strength. Thirdly, to indicate the symptomatology, etiology, and pathology of the diseases common to the districts in question, and to lay down the principles both of prophylactic and therapeutic treatment thereof, and to formulate suggestions to be followed in the choice and dose of drugs, as well as in the establishment of hospitals and sanatoria. The competitors for this prize are reminded that in their scientific researches, as in their practical conclusions, they will have to make them apply to Europeans in the various localities of the Congo basin. The competition is open to all comers. The works of those competing will have to be transmitted to the Minister of the Interior and Public Instructor at Brussels on or before January 1, 1897. Five years is by no means too much time for the execution of an undertaking of such magnitude as that, in return for which a thousand pounds is offered in compensation.—*Medical Press.*

An Attempt to Render Tobacco Harmless.—Smokers may be pleased to learn that Dr. Gautrelet, of Vinchy, claims to have discovered a method of rendering tobacco harmless to mouth, heart, and nerves, without detriment to its aroma. According to him, a piece of cotton wool steeped in a solution (five to ten per cent.) of pyrogallic acid, inserted in the pipe or cigar-holder, will neutralize any possible effects of the nicotine. In this way not only may the generally admitted evils of smoking be prevented, but cirrhosis of the liver, which in Dr. Gautrelet's experience is sometimes caused by tobacco, and such lighter penalties of over-indulgence as headache and furring of the tongue, may be avoided. Citric acid, which was recommended by Vigier for the same purpose, has the serious disadvantage of spoiling the taste of the tobacco.—*Science.*

Cheap Certificates of Merit.—The *Medical Press* states that several German drug houses have lately been favored with the attentions of a gentleman from Paris, who offered, for a consideration, to supply them with certificates of awards from an "Exposition Industrielle" at Ajaccio, in Corsica, of which no one had heard in industrial circles, but a prospectus of which he enclosed. To obtain an award it was not necessary to send any goods to Corsica. One had only to forward 50f. for a diploma, 60f. for a diploma with medal, and 100f. for a diploma with "the order and the Corsican ribbon," whatever that may have been. Illustrations of these valuable marks of distinction are added to the prospectus.

Injection of the Blood of Negroes in Yellow Fever.—Various attempts have been made by Richet and Verneuil to confer immunity from tuberculosis upon human beings by injection of the blood of immune animals, or animals that they believed to be immune, such as dogs and goats. Following upon these lines, Dr. Bordier now proposes to transfuse the blood of indigenous negroes into unacclimated white persons going to the tropics, as a means of prophylaxis against yellow fever. We have not heard of the actual execution of this proposed measure.

The Consumption of Tobacco in France.—Last year French smokers consumed 4,600,000 francs worth of cigars, 10,000,000 of cigarettes, 29,000,000 of snuff, and 91,000,000 worth of pipe tobacco. The greatest snuff-takers are old peasant women and priests. Snuff is often allowed to Sisters of Charity, as it renders the nose insensible to the bad smells of slums and hospitals, and acts as a disinfectant of the air taken in by the nostrils. The greatest number of pipe-smokers are along the coast from Nantes to Calais. Fisherwomen as well as sailors use the pipe. The consumption of ladies' cigarettes rose from 101,900 francs to 800,000 francs last year, and the orders received at the tobacco manufactory promise a still further increase under this head. There is one anti-tobacco society in France.—*The Sun.*

The Discovery of Dr. Caius's Grave.—Mr. John B. Lock, of Cambridge, writes to the *British Medical Journal* that the vault containing the remains of Dr. Caius, the founder of the college bearing his name, was recently found during the course of some alterations which are being made in the college chapel. It is a square brick vault, covered by a thin arch of bricks, which rises to the level of the floor. It is 4 feet deep, 8 feet long, and 3

feet wide. It contains one skeleton, which had been buried in an open coffin, as there were no traces whatever of any lid. The sides of the coffin were fairly complete, but they had fallen away to the side of the grave. The bottom had perished, and as the coffin had been placed upon two large stones the bones had fallen away somewhat from their original position. The grave was again carefully closed, and a stone placed upon it with a short inscription.

Tokyo Medical Association.—The fourth annual meeting of this society was held in Tokyo on September 1, 2, and 3, 1891. The meeting was very successful, several hundred members being in attendance.

Errors in Diagnosis.—In an interesting and instructive paper, in a recent issue of the *British Medical Journal*, William Cadge, F.R.C.S., Consulting Surgeon to the Norfolk and Norwich Hospitals, remarks as follows: "Let me, however, advert briefly to one or two diseases which in my observation have been most frequently overlooked or mistaken; and I would give the first place to diabetes, a disease which manifests itself with so few objective symptoms and in such a variety of ways. Cataract, as we well know, is often the accompaniment of diabetes, and I have heard Sir W. Bowman say that he had in a vast number of cases recognized diabetes—before unsuspected—by the peculiar appearance of the opaque lens. The coexistence, too, of boils and carbuncles, and of gangrene of a toe or finger—or even of suppuration of a joint of a toe or finger—with diabetes is common and familiar enough; but I have seen quite a number of cases of so-called prostatic disease in old men, in which the frequent micturition depended not on the readily suspected hypertrophy of the gland, but simply on the fact that, having a large quantity of urine to discharge, the bladder required frequent relief; and it is well to remember that this large quantity of urine and frequent micturition, though commonly due to ordinary diabetes, is occasionally the effect of diabetes insipidus. So, too, the coexistence of diabetes and lithic acid gravel and stone is not uncommon, and should be borne in mind, for the combination is formidable, and may prevent the cure of the otherwise curable stone. The mention of stone leads to the remark that, next to diabetes, the presence of stone in the bladder is perhaps most frequently either overlooked or undetected. There is no surgeon living—no matter how great his experience and his manipulative skill may be—who does not occasionally fail to detect a stone that exists in the bladder. I plead guilty to this myself, for I have had it brought home to me, and have felt not a little chagrin and self reproach at my shortcoming I am not going to describe the various methods of sounding for stone, but I wish to allude to one source of mistake only, which I have met with over and over again. I can best illustrate it by a case. A London hospital surgeon who was spending his holiday on the coast near Cromer, met with a sturdy old fisherman who had all the symptoms of stone. He induced the man to go to his London hospital, but he was surprised that, when there, no stone could be detected; he examined again and again, and called in one or more of his colleagues, and eventually sent the patient home with the opinion—afterward expressed to me—that malignant disease of the prostate was probably the cause of his symptoms. Yet this man had a stone which was successfully removed by lithotomy in the Norwich Hospital, and the explanation of failure to find it I believe was this: The patient was a tall, fat man, aged seventy-two, with an enlarged prostate, and the bladder was very deeply placed and distant; an ordinary sound would go to its usual extent, and could be partially rotated, but I soon found that it required considerable further introduction, and even to push back the flexible part of the urethra on the sound, in order to reach the bladder; but when it was reached the stone could not be missed, but I have no doubt that my London friend had never passed the sound fully into the bladder, but had only examined the deep prostatic sulcus, and the limited movement of the sound he probably attributed to a contracted bladder."

A Point for the Maternal Impressionists.—Under the head of "a curious coincidence," Mr. R. J. Leeper relates, in the *British Medical Journal* of September 19, 1891, that on August 5th last, he was called to attend a pregnant woman, who had some days before sustained a fright by seeing four deformed children (all of one parent, and all afflicted with "talipes varus"). When he arrived he found that she had just been delivered of male twins (seven months), and on examination of them he found both to be deformed from double "talipes varus." The mother had always been very delicate and nervous.

The Influence upon the Child of Medicaments Administered to a Nursing Mother.—Dr. Schling has made a series of observations upon children, to the mothers of whom various drugs were administered. If the infant was not put to the breast sooner than an hour after the administration to the mother of from thirty to forty-five grains of sodium salicylate, the salicylate was found in the urine of the infant. At the expiration of twenty-four hours not a trace could be found. If the infant was put to the breast too soon after the administration of the drug, not even a trace could be found. The elimination of the medicament took place simultaneously in both mother and infant. Similar results were obtained with potassium iodide. In the infant the elimination lasted for seventy two hours; in the mother, for forty-four hours. At the end of twenty-four hours the mother's milk still contained potassium iodide. When potassium ferrocyanide was administered the reaction was evident in the maternal urine, but no trace could be found in the fœtal urine. When iodoform was for a considerable time employed by topical application to vaginal and vulvar wounds in women in childbed, iodine was, as a rule, found in the milk and maternal urine, but not constantly in the urine of the fœtus. The transmission of mercury to a nursing child through the milk is slight and may be irregular. The influence of the nourishment of the mother, that is the food ingested, appears to be *nil*. Nurses may with impunity be permitted to partake of acids (lemon, vinegar, etc.). Of narcotics, the ingestion of the tincture of opium, in doses of from twenty to twenty-five drops, has in some instances been followed by prolonged sleep on the part of the infant, while in others neither prolonged sleep nor constipation was observed. After the administration of morphine hydrochlorate, in doses of one eighth, one sixth, one-fourth, and one third of a grain, nothing in particular was noted in the child. Chloral, in doses of from fifteen to forty-five grains, brought about sleep of moderate duration in the case of the mother, without any action upon a strong and vigorous infant. When atropine sulphate was administered in medicinal doses subcutaneously to the mother, dilatation of the pupil was observed in the infant, disappearing in twenty-four hours. In a large majority of cases the milk of a woman with fever has no influence upon her infant. Except in rare instances of grave illness in the mother, with a persistent temperature of 104° F., the infant does not present the symptoms of the mother. In a case of mammitis the passage of micrococci from the breast of the mother to the digestive apparatus of the infant has been observed. —*Medical News*, October 24, 1891.

Tracheotomy on a Dog.—Dr. Charles H. Cockey, of Baltimore, recently saved the life of his little Scotch terrier pup, eight weeks old, which was apparently dead from strangulation by a piece of meat, by means of tracheotomy.

The Use of Cocaine.—The use of cocaine in the urethra is attended with more risk than when applied to any other part of the body. It should be positively forbidden in the recently cut or denuded urethra.

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Original Articles.

A CONTRIBUTION TO THE PATHOLOGY OF HÆMOPHILIA, ESPECIALLY IN REGARD TO ITS NEUROTIC ASPECTS, WITH THE PRESENTATION OF SEVERAL CASES IN ONE FAMILY.

BY ALLAN McLANE HAMILTON, M.D.,

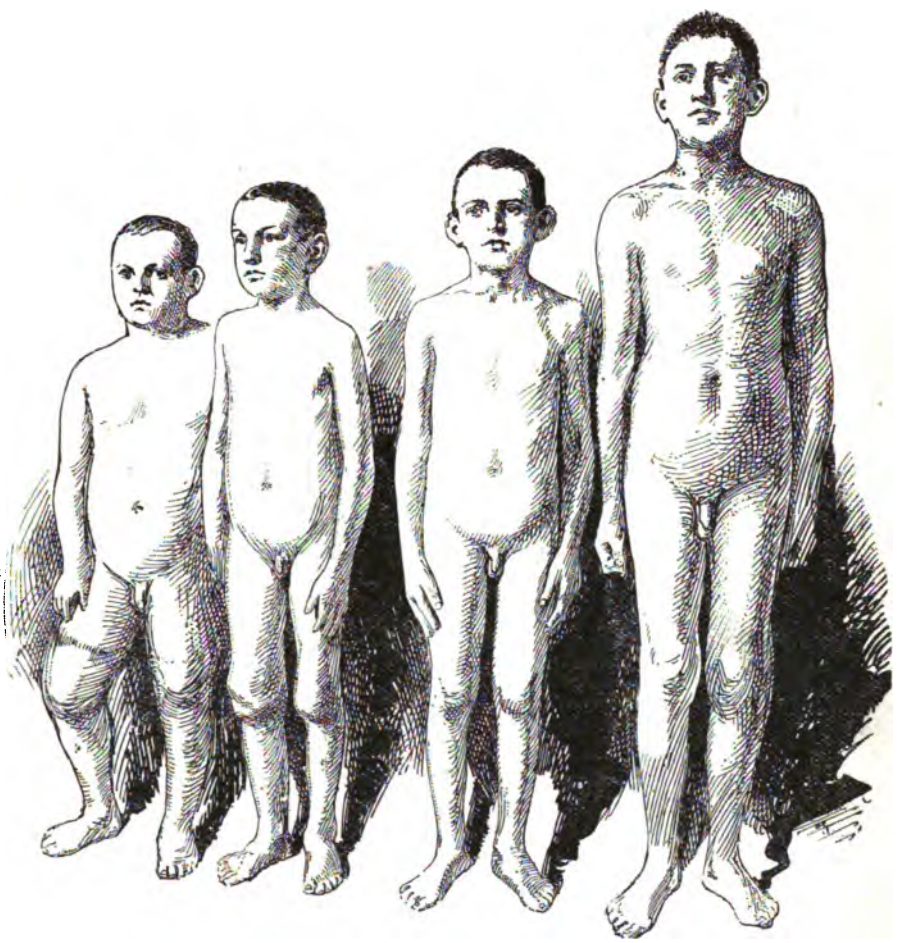
NEW YORK.

IN all the contributions to the literature of this curious affection, which seems to be regarded more from its clinical than from any other stand-point, insufficient attention has been paid, I think, to the development and causation of certain symptoms, namely, the joint affections, and those which are purely cerebral in character. In fact, it would appear that the latter have been generally looked upon only as unimportant features of the affection. Of Grandidier's[1] large number of cases there seem to be very few that are carefully considered so far as their neurotic aspect is concerned, and even in a contribution so recent as Osler's[2] article, there is no mention of nervous disorder except a brief reference to the two cases reported by Buel.[3] Some of the foreign writers, however, speak of headache, mental disorder, epilepsy, and other indications of cerebral mischief. especially in those cases in which there has been joint involvement.

In three cases reported by Grandidier epileptic convulsions accompanied the disorder, and in a case presented by Brier, hemorrhages were preceded by epileptic attacks. In Cousin's case, which ended in death, there was epilepsy, the attacks being followed by various kinds of cerebral disturbances and some permanent mental degeneration. This boy had a second attack, six months after the first, which was fatal, the autopsy disclosing fresh blood clots at the base of the brain, and old cysts elsewhere. In Otte's case epilepsy appeared in the thirteenth year, and attacks were occasionally followed by maniacal outbursts. It was observed in this subject that no spots of discoloration appeared upon the surface when the patient was injured during an epileptic seizure

I was first consulted, about four years ago, by Mrs. M——, of Newark, N. J., in regard to her little son, then about nine years of age, who presented a well-marked history of hæmophilia, and to my surprise I found that several members of her immediate family were afflicted in the same way. Careful study of these cases, frequent inspection, and information given through the kindness of Dr. Wrightson, of Newark, who had attended them and who came to my office upon one occasion, has put me in possession of the following facts: Mrs. M——, the mother, is a native of Bohemia, is of good health, and knows of no bleeders in her family—brothers and sisters both having families of children, boys and girls, who have never given any evidences of hæmophilia. Being Jews, an early opportunity for the manifestation of the disease occurred at the ritual of circumcision. In these families, so far as she knows, there is no history of rheumatism or nervous disease.

Personal History.—Mother of the children has always menstruated profusely, the function lasting a week, but



the flow has never been alarming; loss of blood during placental period of confinement profuse, but not serious; she was only once attacked with alarming hemorrhages, and that was on the ninth day of the first confinement, upon the day of circumcision, when she was rather nervous; and feeling as if she were flowing, she went aside to investigate the matter, when blood began to flow freely. She called for assistance, but fainted before anyone came. Later on, it was discovered that the child had been bleeding since the ceremony, but of this she was ignorant. She was so much frightened at its appearance when it was brought to her that she began to flow most alarmingly for some time. She has never had any ecchymoses

[1] Die Hämophilie. Leipzig, 1877.
[2] A System of Practical Medicine, vol. iii., p. 931.
[3] Trans. of the Medico-Physical Society of New York, vol. i., 1817.

or bled unduly after injuries, nor has she had any serious bleedings in her subsequent confinements. The father, a native of Westphalia, is in good health, has never had any hemorrhages, nor have any of his family; there is neither history of rheumatism nor nervous disease in his case.

Case I.—Frank M——, born November 1, 1875; bled twenty-four hours after circumcision, until nearly exsanguinated, and it was seven weeks before they dared to handle him. No dropping of umbilical cord (mother says cords of all her children were thick and did not separate for from ten to twelve days). No further sign of hemorrhage until he began to walk and bruise and bump himself, when very large ecchymoses always appeared and were caused if he were handled with any rudeness. When five years of age he met with his first accident, from which he almost bled to death, the edge of his foot being lightly stepped upon by a horse, yet not enough to frighten him. The nail of the great toe was somewhat loosened, but there was no hemorrhage. During the night the mother awoke and found the child in bed covered with blood. The flow lasted, on and off, for seven weeks, the blood finally seeming to ooze through some granulations at the corner of the nail. When the bleeding ceased convalescence was quite rapid, but the nail was never properly reformed. With the loss of each tooth hemorrhage occurred which lasted from several days to a week; and with some teeth the hemorrhage was very alarming, so that they were never drawn. No bleeding followed vaccination. He had epistaxis but once, and that was not serious. Joint symptoms first appeared when the boy was ten years of age, and involved the knees and elbows, mostly, however, the knees, which now are larger than normal, but there is no marked embarrassment of motion. The first phalanx of the third finger of the right hand is always the seat of swelling; the pain in joints has always been very severe and quite out of proportion to the swelling. The pain is hardly like that of ordinary rheumatism, but for the most part consists of lancinating and darting pains which are not confined to the joints, but in lower extremities seem to follow the course of the sciatic and other nerves. Dr. Wilke, who saw the case at my request, found that one of the brothers, who has an enormous swelling of the joint, has little or no pain, and he who always had least swelling suffered the most severe pain after the joint symptoms had existed about two years, following a most severe attack of his knee trouble, that is, swelling and pain in the knee. The pain suddenly left the knee, when the lad complained of most excruciating frontal headache, lasting about nine days, during which time he did not seem to be himself, and asked to be assisted to empty his bladder and rectum, but did not ask for food, though when it was brought to him he ate it voraciously, not at all in his usual manner. When the attack passed off he seemed to remember little or nothing about it, sitting up suddenly in bed, asking what day and date it was. The attacks, though, did not cease, and probably there would be an interval of an hour or so with less pain, then return of pain, then a longer interval, then pain again, until it ceased. During the attack he desired to be in the dark and could not bear any noise, not allowing his mother to leave his side. The shortest interval between attacks was a week, the longest six months; he now has not had any since June, 1890 (December 11, 1890). During the headache he had severe tachycardia, of which he complained, and this was noticed by his mother. I saw him during two of these periods, when his mental condition was one of exceeding interest. His facies indicated very great suffering, but at the same time there was a suspicion of hysteria, and his behavior clearly showed such a state. The boy now looks quite rosy and well, is manly in his sports; his heart's action is somewhat forcible, and his pulse beats 120.[1]

[1] October 4, 1891. Frank M—— has been seen twice since this article was written, and upon the last occasion presented a marked hebetude and dulness.

Case II.—Julius M——, born August 4, 1887; no hemorrhage after circumcision, which was performed when the child was two weeks old; he never bled or had any ecchymoses, and died when eight months of age, of pneumonia.

Case III.—Solomon M——, born April 25, 1879; circumcised on the ninth day, with occasional bleeding for three weeks, and he was seven weeks old before they dared to handle him without great care; pains in the joints when five or six years of age, with severe swellings. Pains are much less than Frank's, but the swelling is greater. When he was nine years of age he struck his head when driving into a barn, but there was no rupture of the skin and no visible hemorrhage; but an immense hæmatoma formed, hanging over a great part of the face, and it was four months before this disappeared. He is a bright-looking lad, rather thin, but not pallid; pulse, 104, impulse slightly accentuated.

Case IV.—Jacob M——, born 1881; was circumcised like the other lads, he has always had large ecchymoses on receipt of injury, no matter how trifling. When he was three years of age he fell against an iron safe, hitting his head over the frontal bone; the hemorrhage lasted for several days, subsiding at times; it was severe enough at the time to almost kill him, and it took the wound two months to heal, which it did after discharging a splinter of bone. He now has a depressed scar on the temple. Upon another occasion he almost lost his life from bleeding of lips, which he bit in falling; a large hæmatoma formed; the hemorrhage from the mouth lasted one week. He, like his next elder brother, is rather frail-looking, but not pallid. He first had his pains and joint symptoms when five years of age, has more swelling about the knees than Solomon, and less pain than he or his eldest brother have had, the latter of whom always had most severe pain and less swelling. This lad, J——, as his mother says, is "liable to puff up over night." His knees are somewhat larger and his gait is a little affected. His pulse is 112, and he also has some accentuation of impulse.

Case V.—Leo M——, born 1883; not circumcised; has been most prone to ecchymoses and severe, but comparatively painless, swellings. He has never had any hemorrhages except when teeth fell out, and these were slighter than those of any of his brothers. The most trifling injury produces large ecchymoses, and he has most frequent and very large swellings of right knee, which never regains its normal shape, causing him to limp. His mother says he falls much, and that swelling follows his falls. At present his knee is swelling, he having had a fall several days ago. The knee measures sixteen inches in circumference, the sound one, twelve; the skin is shiny and drawn, and feels like rather firm œdema, but is loosening around the edges above the swelling. About two inches above the upper border is a black and blue spot extending upward about three inches and is two inches wide in front of the thigh. His temperature is 102° F.; pulse, 140. The little fellow is very fat, abnormally so in fact, and has loose, flabby tissues.

Case VI.—William M——, born 1887; was not circumcised and has never bled seriously; he is only prone to ecchymoses, has not lost any teeth yet, nor has he had joint symptoms. His pulse could not be counted, as he is very restless, but slight irregularity in heart's action was detected. At visit of Dr. Wilke he pricked himself with a pin, and the little puncture, which could not be discovered, bled about an hour, so that the fingers and hand were besmeared with blood, no matter how often it was wiped away.

Case VII.—Infant, never circumcised, born 1888; has never had any ecchymoses on injury or given any indications of being a bleeder; seems to be perfectly well in all respects.

The blood which flows from these children clots firmly, but after the hemorrhage has lasted some time the coagulation is diminished.

The bleeders in this family at times manifest a certain amount of mental distress, headache and excitement, the most marked example, however, being that of Frank M—— (Case I.).

It will be seen that five of these children are bleeders, and that joint defects of greater or less gravity were present in each case.

Case VIII.—in the year 1885 I was consulted by Dr. D. B. Delavan, of this city, in regard to a lady, aged about forty, who suffered from the most intense headaches of an anæmic character, which I traced to certain drains upon the vascular system. These had lasted for many years, in fact, from the commencement of menstruation, and she had always had a much more profuse hemorrhage than was consistent with a normal exercise of function. No local cause had ever been found for this menorrhagia, and it had resisted the best directed efforts at control. The patient was of good stock, without any hereditary history whatever, except the transmission of an active nervous temperament and a poor physical make-up. It was quite certain that there were no bleeders who were known. The first indication of hemorrage was when the patient was about seven years of age, when frequent bleedings from the gums occurred when studying in school. When ten years of age she suffered from a dysentery which was very intractable. At sixteen she was prostrated by typhoid fever, when epistaxis was alarming; but the abdominal symptoms were not marked; during convalescence spots of ecchymosis were produced by the slightest contact. A few days after this, her teeth needing filling, a dentist was called and by some accident let an instrument slip, which entered the gum, there being a resulting hemorrhage which very nearly killed the patient before it was stopped. After that year she was very subject to sore throat, which often ended in constant bleeding from the fauces and gums, and bleeding from these parts was very frequent and lasting. This constant drain resulted in a very great enfeeblement of the general system, so that the patient was very easily fatigued, emotional, and nervous, and suffered from the headaches I have described. When she was seventeen she began to have "rheumatic" pains and enlargement of both knee joints, which still exist, though they do not compare proportionately with the same condition of affairs in the M—— children. She has periods of very great nervous excitement, quite hysterical in character, which alternate with very great depression and despondency, and has had at least one convulsive attack. In August, 1887, she had another accident in the dentist's chair—three loose teeth were removed, but when a sound eye tooth was pulled there was some slight fracturing of the alveolar process with very profuse hemorrhage, which was restrained with great difficulty. This loss of blood, which was attended by faintness, great sense of constriction in chest, swelling of the feet and legs, was followed by an unusually severe attack of knee pain; "her feet were purple, and would seem to blister and then bleed on the slightest provocation." For the past year she has had constant diffused head pain, and some photophobia. She is very susceptible to iron and rapidly improved under the use of the albuminate, while other preparations seemed to pro duce gastritis, her digestion being very much disordered.

The foreign cases in which neurotic and joint disturbances complicated hæmophilia are numerous, although there seems to be a disposition to regard the latter as gouty, or purely rheumatic. Immermann has observed all grades of joint affections, from inflammatory arthralgia to copious synovial effusions, and he considers the attacks to be rheumatic, because they appear during cold, damp weather, and have no relation in point of time with bleeding; and upon the fact that the effusion is mostly serous, and that the subsidence of pain and local disturbance is more in consonance with the explanation of ordinary rheumatic causation than anything else. He also holds that the rheumatism outlasts the tendency to hemorrhage. In answer to this, it is quite possible to assume, however that when the mechanical violence has been done the pain and swelling may result from the new products.

Grandidier and Hyde-Salter believe the affection to be closely allied to the rheumatic disposition. Grandidier has collected 31 cases, which were reported between 1863 and 1872. Of these 22 show enlargement of the joints, and in many such serious symptoms as the hemorrhage itself. In some of these there was resulting anchylosis and various permanent deformities. Three cases show anchylosis of the hip- and knee joint; 4, anchylosis in the hip-joint alone; 5, of the knee-joint alone; 1, of the shoulder; and 1, of the elbow. So far as the history could be ascertained, injury did not appear to be the cause of these affections, but at first the information as to this point is by no means clear. The contents of the swelling was generally serous, at times blood was found, and sometimes clots. In cases reported by Camman, Stroemeyer, Reinert, Assmann, hemorrhage in which the joint was found to be the seat of the swelling, as was also the case in an example reported by Du Bois. In some of these cases the joint disturbance appeared in the fall or spring, when the weather was cold and damp, and the pain grew worse always at night. In others, the pains appeared in joints that were not the seat of swelling. It would seem, however, that "rheumatism" was not of the ordinary nature, for the additional fact that heart complications were observed but twice.

In some of my cases, and as the result of my examination of continental examples, I am impressed most strongly with the idea that the swelling of the joints and the painful symptoms are not due to rheumatism, and there are no accompanying indications, either in the urine or in the history of the case, that allow me to adopt this explanation as final and conclusive, despite many assertions to the contrary.

A careful study of the children of the M—— family convinces me that in no respect is the joint affection a distinctly rheumatic one, that is, so far as it is due to any uric acid causation. I am inclined to think that its development is dependent upon injury of the deep parts and the rupture of vessels, and consequent hemorrhage into the tissues; and with these children, as well as many of the foreign cases, there was rarely any substantial retrogression or change, but it would appear as if the enlargement was due to plastic deposit left after hemorrhage rather than to the effects of an ordinary arthritis. In these, and other cases, fresh attacks of pain and ecchymosis always followed blows where sometimes very inconsiderable force was applied, and the resultant effect of such violence was in direct proportion to the force. I have repeatedly closely examined the joints of these children, and have nearly always discovered very decided appearances of ecchymosis; and within a few days I have found in one of them (Jacob M——) that a painful swelling of the metacarpo-phalangeal joint of the thumb was the seat of a diffused discoloration which varied in depth. It is quite proper, I think, to compare the pathological process that takes place in these examples with that known to exist in hemorrhagic pachymeningitis, where successive hemorrhages result in increase of tissue, and such a condition of affairs in any of the joints would account for the very great enlargement and the pain; so it is not unlikely that in the case of Frank M——, or, in fact, any other case where there is very much headache or epilepsy, or where cerebral disturbances are associated with the disease, that the actual condition of meningeal thickening has followed hemorrhages due to blows upon the head, or falls.

20 East Twenty-ninth Street, October 4, 1891.

Strychnine as a Heart Stimulant.—Strychnine is regarded as the best heart stimulant in weakness of the heart. The heart-beat becomes strong, the small arteries contract, and the blood-pressure increases.

A FLAP-SPLITTING OPERATION FOR THE RADICAL CURE OF INGUINAL HERNIA.[1]

By B. E. HADRA, M.D.,

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The actual results of the present operations for the radical cure of hernia are not satisfactory, statistics showing a great percentage of relapses. This is my excuse for offering a new operation for inguinal hernia.

We find in the modern, so-called direct, operation three points aimed at: 1. Obliterating or removing the sac. 2. Closure or narrowing of the openings and of the canal itself. 3. Restitution of the normal obliquity of the canal.

In regard to the first indication, I think that too much stress has been laid upon the instrumentality of the peritoneal sac to produce and to maintain the hernia. Its rôle is more passive than active; and even if the theory that the presence of the peritoneal pouch is the primary fault be true, nevertheless the width of the internal ring seems to be the more important factor surgically. If this latter is narrow enough, it will not allow the gut to pass into the sac within the canal, and finally the sac will shrink and atrophy. While this is evident in acquired hernia, it seems to be the case also in the congenital form. The vaginal process of the peritoneum is, as a matter of course, present in every individual, and it is open at least in early fœtal life, and in most instances at birth. Consequently inguinal hernia would be the rule. On the other hand, we know that an abnormally wide internal ring is a frequent and hereditary fault of development, and it seems therefore more rational to look on this latter defect as the primary cause of hernia. The atrophy and the consequent closure of the peritoneal process is due to the compression exercised by the internal ring. If this latter be too wide, it will fail to do its duty. This seems to me the best explanation of the mutual relation. But whichever is right, it is obvious that a permanent closure of the entrance to the canal by operation must prevent the intestine from getting into the sac, provided, of course, that the latter could be emptied of the former before the closing.

However, as undoubtedly a pouch with a large opening is an invitation to the intestine to enter, its occlusion may be of great service as an addition to the more important act of obstructing the internal ring.

There are three ways of treating the sac: 1. To return it into the abdominal cavity, which will be the best with small, merely peritoneal pouches, when they are free or easily detached. 2. To contract the neck of the sac. 3. To remove it.

Constriction is made by carrying a ligature by a blunt instrument around the sac. If the adhesions be too firm, a needle may be used, having proper regard for the cord. In congenital hernia this latter has to be well separated first, and it should be kept in mind that its structures are sometimes divided into two or more portions. Another method is to draw the sac out sideways where it is free from the cord, and to tie it laterally. If the ligature can be applied without opening the sac, the operation remains extra-peritoneal; yet an incision has to be made in strangulated cases; or when there are adhesions within the sac; or when we do not feel certain of having emptied it thoroughly of its contents; or finally, when omentum has to be resected.

Removal of the sac means cutting away its pouchy part after detaching it from the adjacent tissues. Some operators cut away all below the ligature. The advantage of such devices hardly pays for the additional danger and trouble. Necessarily a large wound-cavity is produced. A good constriction excludes perfectly the lower part, and it will then gradually shrink and become solid. It would be only from cosmetic considerations that large pouches, reaching into the scrotum, would be better done away with, but time greatly remedies the evil by atrophy. On the other hand, the firmly adherent and solid mass of the sac left behind, may serve as a plug to the canal, and as a kind of a bracket for the upper tied-off portion. But it is different when the sac is used to form an artificial occlusion in the canal or in front of the internal ring. Here there is some use made of it, compensating to some extent for the detaching and cutting manipulations. Still, I think, even such methods are of little real value. The width of the canal by itself is, as already said, of secondary importance, and a barrier, as formed by Mr. Macewen's plug, is not in any way superior in its defensive effect to a firm closure of the internal ring, if this is done thoroughly. My conclusions, then, in regard to the treatment of the sac are, that its obliteration or removal is not the main point in curing the hernia, but that under certain circumstances it will offer additional safety. But this occlusion has to be made on a level with the internal ring, or above it, as in McBurney's operation. It is evident that if a pervious part of the sac be preserved within the canal the complete hernia will be merely turned into an incomplete one, provided, of course, that no other precautions to prevent the intestine from entering be taken. There is only one good excuse for meddling with the sac, and that is to restore the normal shape and surface of the peritoneal cavity, and not to allow any new pouching of it opposite to the internal ring.

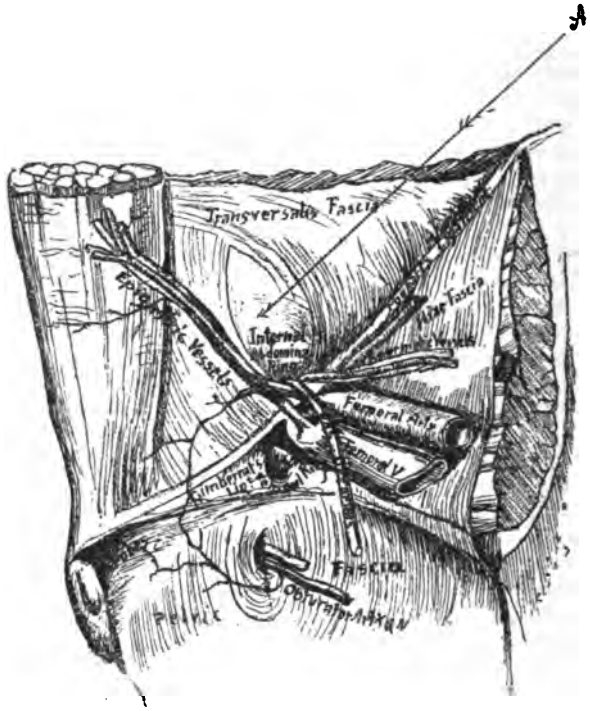

FIG. 1.—(Taken from Gray's Anatomy.) The Relations of the Femoral and Internal Abdominal Rings; seen from within the Abdomen. Right side. A, The oval-shaped fossa.

Now, as to the closing of the openings and the inguinal canal. The great majority of operations aim only at the outer ring, taking in perhaps the more external portion of the canal. By such methods nothing is gained, but again the complete hernia is made incomplete. The outer opening is simply closed, while the gut is freely admitted to the canal above it. Even if the sac were tied off higher up, the abnormal width of the entrance of the canal would, at any favorable occasion, allow a new invasion of peritoneum, omentum, and intestine. A more resistant protection against a relapse will be the closure, or rather the narrowing, of the whole extent of the canal, as some new devices demand. But evidently, the most sensible and most natural safeguard will be procured by the closure of the internal ring, so as not to allow the beginning of an intrusion into the canal. The question only is: What constitutes the internal ring? If only the narrow slit through which the cord passes is considered as such, I insist that the work cannot be done securely and reliably.

As you can see on the cadaver or on every anatomi-

[1] Read before the Austin District Medical Association, June, 1891.

cal plate, the internal ring begins with an oval-shaped depression in the abdominal wall, lined and surrounded by very strong fibres of the transversalis fascia (Fig 1, A). This fossa has a diameter of about two inches. It extends upward and somewhat inward from the real opening. It corresponds in many individuals to an elevation on the outside of the abdomen, which can best be seen during an attempt at cough. If the whole inguinal canal be compared to a funnel, then this depression represents the cone, while the canal proper is the tubular portion. Now, this conical groove has to be cared for in the operation before all other parts, because it has to withstand the force of the abdominal pressure as the first and the strongest obstacle. Under untoward circumstances the tissues of this fossa become yielding and attenuated by the constant aggression of the intestines. The latter work themselves in, as it were, pushing out the peritoneum to fit the depression. By and by the ring gives way, the cup becomes flatter and pouch-like, and the hernia burrows more and more in, and finally lifts up the anterior wall of the canal, gradually progressing into and finally out of it. Thus the hernia begins even before it enters the canal, not because there is a preformed pouch of the peritoneum (which may however happen occasionally), but because the fossa in the abdominal wall is not normally shaped, or not normally resistant, which in most cases will be an inherited defect. The peritoneum, of course, cannot help following all the changes in the abdominal wall. (I have a slight suspicion that the pre-peritoneal hernia, on which lately so much has been said, is nothing but a common hernia in a very pouchy fossa, and just in the act of sending forward a process into the canal.)

If that all be so, then the necessity of mending the condition of the fossa of the internal ring is obvious. It is, in my opinion, the key to a reliable permanent cure.

A few words now about the obliquity of the canal. Normally it is so inclined as to be rather compressed by the intra-abdominal wave; but the straighter it becomes in the postero-anterior direction, the more easily it will be entered by the peritoneal pouch. It is therefore very desirable to have the canal's normal obliquity restored.

Summing up: The foremost requirement for a permanent cure is the reparation of the abdominal ring in its entirety. Of additional service are the restoration of the normal obliquity and of the normal calibre of the canal, and the obliteration of the sac. In my opinion the first act will by itself be sufficient.

I will now proceed to investigate how these indica tions are best met. It is not necessary to describe fully and criticise the methods of closing the outer ring alone. They are, from all that has been said, perfectly inadequate to the task, and it is enough to state that the two pillars have been brought together by sutures; also that the conjoined tendon has been stitched over to the middle of Poupart's ligament; that another surgeon advised bringing the pyramidal muscle over the outer opening, and so on; not to mention older devices of invagination, subcutaneous sutures, etc. In order to contract the canal in its whole extent, the main means is the formation of cicatricial tissue, either to fill it, or to surround the flaccid walls with rigid cicatricial rings. The first is most energetically sought by a massive longitudinal cicatrix in McBurney's operation, the latter by carrying sutures around the canal (of course excluding the cord) by different methods. Marcy, for instance, uses his particular tendon suture, Schede takes silver wire and leaves it in. Others apply simple catgut or silk stitches, firmly bringing together the two halves of the split canal. Evidently, however, the dependency solely upon cicatricial tissue is a very weak point, and makes all such methods unreliable. In all our pathological experience cicatricial tissue has the tendency to atrophy, to become absorbed, and relapses are therefore nothing that we ought to wonder at. To avoid such mishaps Riesel removes a longitudinal strip from the anterior wall of the canal before bringing the wound together, thus uniting muscular tissues after the narrowing —obviously a great improvement. Finally I may mention the attempt to form a new canal, as in Bassini's operation.

Now, all these methods are concededly successful in a great many instances, statistics showing about fifty to seventy per cent. of permanent cures. But even such results should not satisfy us. From what has been said, there are two mistakes made, to avoid which is necessary to success. One is that the cone of the interior ring is not included in the operations, and the second mistake is that the improvement of the structures to be made tenser and more resistant is not of a permanent nature. To the first point I insist that the usual extent of slitting of the canal, even through the internal opening, is insufficient. The incision is usually of the length of one and a half to two inches. But in order to reach or, even better, to run through the fossa, it has to be made at least three inches long. The incision has to be made obliquely, about parallel to Poupart's ligament, so as to restore the obliquity of the canal. The upper end may, perhaps, be bent inward, to meet the fossa better. The incision then will have the shape of either a light bow or of an angle with a long and a short shank. Still a linear incision will, for simplicity's sake, most likely do, as from its termination the adjoining parts can be reached to any extent wished.

The second improvement has to be applied to the method of tightening and strengthening the involved parts. Cicatricial constrictions or plugs are not safe. We will best use muscular union. And I think that this is best obtained by a flap-splitting operation modelled after Lawson Tait's method, an operation which has been successfully performed in ventral hernia by Saenger, of Leipzig (induced, as he states himself, by Tait's remarks), and in a similar case by Edebohls, of New York. It is true that I have to show only one case of the operation adapted to inguinal hernia; also, that the time since the operation is too short to prove its efficacy. But it is to request you to try my propositions and to put them to test, that I read this paper to you.

Leaving out the minutiæ, not differing from such in other methods, the operation consists of the following acts: 1. Skin incision, extending from the outer ring, parallel to Poupart's ligament, sufficiently to get a good access to the field of operation, say four to six inches long. 2. Exposing the external ring and the abdominal fascia over the canal, freeing them with blunt instruments and finger. 3. Detaching the contents of the canal from its anterior wall. This has to be done with proper care. The finger has to be inserted high up and the peritoneum detached from the transversalis fascia to the full extent of the internal ring, the fossa included. 4. Slitting the abdominal wall with knife or scissors on the left index-finger, in the long axis of a supposed normally situated inguinal canal, for fully three inches, curving the incision somewhat inward in its upper third. 5. Attending to sac and testicle; either simply returning the contents of the former into the abdominal cavity, or ligating the sac above the level of the internal aperture, with or without detachment from the surrounding tissues, or removing the sac—as the case may be, or the operator chooses. A diseased or undeveloped testicle, if in the way, is best removed. 6. Carrying a fine, long bladed knife flatly around the lips of the wound, so as to split the adjoining abdominal wall into two layers for the distance of one-half to one inch. The more lax the parts and the larger the calibre of the rings and the canal, the more the splitting has to extend toward the periphery. It is not difficult to satisfy oneself about the situation of the fossa; of course, the more thoroughly this is included in the splitting, the more successful the operation will be. It is advisable to have an assistant steady the lip of the wound with two tenacula while it is split. The diagram (Fig. 2) shows the method fully. The line *a*, *a*, represents the distance to which the splitting of the tissues is

carried; *c*, the line of incision. 7. Carrying a continuous suture through both raw surfaces in as many longitudinal rows as may be necessary to bring the surfaces well into contact. Catgut may be used, as I have done in my case, but perhaps silk will be more reliable. The sutures be-

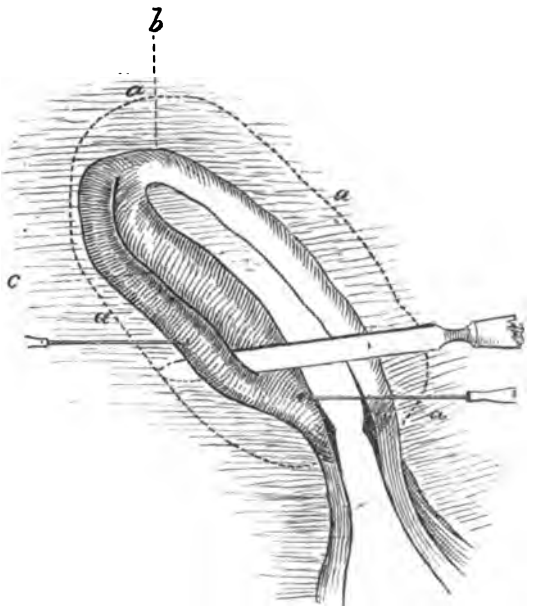

FIG. 2.—Operation on Left Side. Splitting nearly done through the right lip of the wound.

come buried. The black dots in Fig. 3 show the points of entrance of the needle. The numbers 1, 2, 3 indicate the lines of three rows of sutures. In some cases two may do, in others perhaps more will be desirable. It is important to have a good apposition, especially of the middle line, so that no interspaces and caverns be left below. The first row, commencing in the upper angle, has to take in the transversalis fascia. Bringing the latter up by a fine tenaculum will assist greatly. 8. The tendinous

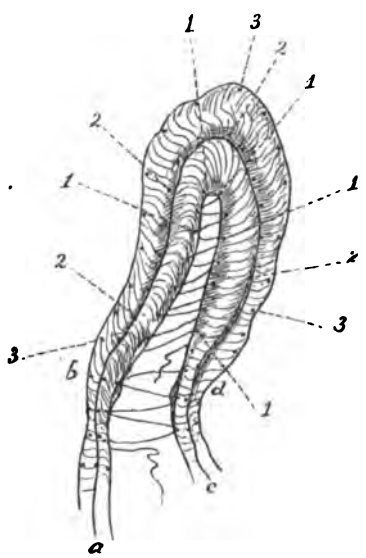

FIG. 3.—Operation on Right Side. Splitting done all around; first row of uninterrupted suture inserted.

pillars below and to the sides of the external ring (Fig. 3, *a b* and *c d*) may now also be split and sewn together in the same manner as the canal. Thereby an additional closure of the external ring is obtained. 9. Finally the wound is closed in the usual way, with or without drainage. I think the best dressing is a layer of cotton fastened to the skin by iodoformed collodion. It does away with all kinds of bandages, which are more or less of a nuisance. Still, if they should be preferred, a good cotton-padding and a spica are all that is needed to complete the dressing.

The proposed operation is much simpler than it appears from the description. It can be performed in thirty minutes without any undue haste. If the sac is not opened, it remains entirely extra-peritoneal, the whole procedure involving solely the abdominal wall. But even if the sac should be incised or resected, the surgical danger is in no way greater than in all other direct methods. Further advantages are, that no tissue is sacrificed; that one can narrow the parts to any extent desired; that the opposing raw surfaces are large, muscular planes; that the line of union will not cicatrize; that a sort of a protruding ridge is formed as a line of defence on the inside; but, before all, to repeat the main point, a strong, resistant internal ring will be obtained which will prevent the formation of a new hernia at the starting-point. Also, the after-treatment is greatly simplified. The muscular parts can be expected to make a firm union in about three weeks.

All I have said pertains to oblique inguinal hernia. Yet there is no reason why direct hernia should not be operated on and be cured in the same manner. Here as well, a pre-existing fossa becomes attenuated and finally perforated. The difference, of course, is that another point of the abdominal wall will have to be split. In neither instance is hemorrhage of any severity to be feared. The epigastric artery remains untouched on the inner surface of the flap. But even if it, or any other large artery, should be cut, its ligation is a matter of no difficulty.

The following case was operated on after the principles laid down in this paper, though, to be honest, all my cases operated on after McBurney's method, have proved, up to date, to be perfectly satisfactory.

H——, a German gardener, forty-nine years of age, ruptured by traumatism thirteen years ago, was operated on in the John Sealy Hospital, with the kind assistance of Drs. Cooke, Sykes, and Wysong, on the 6th of May, the operation lasting about half an hour. The oblique inguinal hernia was scrotal, but easily returned. The canal was represented by a hole admitting three fingers, and, as one of the examining gentlemen remarked, a perfect intra-abdominal exploration in addition. I opened the sac more from usage than from necessity. It was then tied *in situ*. The further steps were exactly as described above, including the pillars in the splitting and suturing. No drainage. Patient could not be prevailed upon to keep in bed, but got up whenever he wished to attend to the evacuation of bladder and rectum. A subcutaneous abscess, no doubt due to some skin excoriations from the truss, demanded some attention. Otherwise there was not the least trouble experienced. The sac, being left undisturbed, was quite swollen in the beginning but grew smaller by and by, and shrunk sufficiently to cause no discomfort. The patient was up and about in two weeks without a truss. He underwent an operation for fistula in ano, by Dr. Cook, before he left the hospital, where he had been about three weeks.

The canal is at present so narrow as not to admit a pencil, and judging from external examination, it is well filled through its whole length, and is of normal obliquity. The man has worked steadily since leaving the hospital.

Eighteen Hundred Pounds of Gold is the amount consumed annually for teeth-fillings in this country, according to the estimate of a French statistician. This is worth about half a million dollars, and is lost as effectually as if it were dropped into the ocean. The question occurs, how long a time it will be before the cemeteries will contain more gold than the mines.

Rupture of the Linea Alba.—Dr. Monsell has reported, in the *Australasian Medical Gazette*, the case of a woman in whom there occurred a separation of the two halves of the rectus abdominis muscle during labor. On palpation of the abdomen the coils of the small intestine could be felt directly under the fingers, separated from them only by the skin and peritoneum.

INTERCHANGEABILITY OF HEREDITARY TRANSMISSIONS.[1]

By JOHN FRANCIS BURNS, M.D.,

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A DEMAND for stimulation by alcohol in the human body is expressed as a morbid craving of the mind. This craving is not in itself an evidence of a diseased brain, but simply an indication of the desire for stimulation by the general nervous organization, which finds its expression in the controlling centre of that system. A craving for food in the human body is expressed by a sensation which we attribute to the stomach, but the actual demand arises from every individual cell throughout the economy. The same holds true in those having an alcoholic craving: the actual need is to be found in peripheral nerve-cells in every part of the body, and similarly with food, the sense of need in the central organ is blunted upon the introduction of alcohol into the system. The difference lies in the fact that the food craving is a normal one, the alcoholic abnormal. The final distribution of the alcohol taken into the system is effected through the agency of the circulation, its consumption occurring principally in the peripheral nerve-cells.

Corroborating evidence supporting these statements may be found in the general histories of drinkers, a microscopic examination of their tissues and nerves, and by a careful study of the different phenomena presenting themselves in individuals suffering from affections produced by indulgence in alcoholic drink.

Drinkers, as a rule, begin in moderation, and do not become confirmed until the general nervous system is so involved that the demand is imperative, arising as it does from repeated over-stimulation of originally deficient cells. The increased quantity of alcohol necessary to produce that quietude sought after in excessive drinkings, indicates the waste of nervous structure brought about by repeated indulgences. The stimulant accomplishes the desired object, but at an additional loss of nervous function proportionate to the amount of indulgence. A man with the tremor produced by alcohol (which tremor it is capable of producing in common with many other poisons) is relieved of his tremor upon the introduction of a fresh supply of alcohol into his stomach. The cry from the nerve-cells has been heard, and the condition relieved, but the relief will last only until the alcohol is consumed in the ultimate cells; and as degeneration instead of regeneration occurs in the cells by the use of alcohol, the demand will increase proportionately with the consumption. A microscopic examination of the terminal nerves of a drinker will reveal destructive changes in cell-structure, consisting principally in degeneration of protoplasm with substitution of a granular fatty material of a low order of vitality; or the nerves are found shrunken and hardened, owing to an abnormal increase in the cell-elements, with subsequent contraction.

Diseases of the nervous system which can be definitely traced to indulgence in alcohol involve the terminal nerves more particularly. Paralysis of the extremities is common, and sight and hearing either temporarily or permanently interfered with, through implication of the optic or aural nerves. Cutaneous anæsthesia and hyperæsthesia are the most common and constant manifestation of alcoholic abuse. The symptoms of cerebral origin are not so marked, and consist mainly in loss of memory for recent events, with delusions concerning immediate surroundings. Events remote are quite readily recalled and dwelt upon rationally.

The condition seems to be one in which the power of receiving impressions and transmitting ideas is lost, rather than an inability to conceive them. The brain first regains its normal balance when alcohol is withdrawn and appropriate treatment instituted, while the more remote portions of the nervous system are the last to regain their normal tone, the cutaneous symptoms often persisting for months and even years.

That the brain of the drinker suffers proportionately with the rest of his nervous system is to be expected, but that the brunt of the attack should be borne by this organ (as is so often taught) is not so evident. It is protected in part by that compensating law of nature which provides for the support and continuance of the higher developed forms of structure at the expense of the lower, and in part from the fact that the ill results attaching to the use of liquor are expended on the general nervous system, and not locally.

If the alcohol drinker's brain were the constant and most vulnerable site of attack, it would require a doubling and a trebling of the lunatic and imbecile asylums of our land for the accommodation of thousands who are now considered eminently successful in business and social circles. The hardest and most constant drinkers are not to be found within the walls of inebriate homes, but are engaged in business, or are men of leisure in society.

All this simply goes to prove that continuous indulgence in alcohol induces alteration in the tissues of the body, which find their expression in a variety of diseased conditions involving the nervous system more especially, and contributing materially to continuance in the indulgence. Now, it is a most curious, yet interesting, fact that diseased conditions of the nervous structures identical with those produced by alcohol, may be induced in the body by substances entirely dissimilar, physically or chemically, from alcohol, and the various conditions so produced cannot be separated in a pathological study. Arsenic introduced into the system in quantity will induce a paralysis and destruction of nervous structure with exactly similar symptoms and appearances. Diphtheria (which is in itself a disease) often leaves a regular condition and symptoms of the nervous system which can in nowise be distinguished from the two previously mentioned. The difference in the name of the disease will be regulated according to our knowledge of the causative agent responsible for the production of the condition; but from a mere study of symptoms, or a microscopic study of the changes wrought in the nerves, we would be unable to state whether the condition was produced by alcohol, arsenic, or diphtheria. A history furnished, or chemical analysis of the stomach contents, might solve the question, but the fact remains that symptomatically and microscopically there exists no essential difference. These conditions, produced by vastly dissimilar substances, are all denominated "diseases" by medical men, under the common title "neuritis," and the neuritis will be alcoholic, arsenical, or diphtheritic, in accordance with our knowledge of the agent responsible for its production. The intimate relationship existing between these and other nervous conditions, both in their visible symptoms and invisible effects, yet produced by so strikingly dissimilar agents, has been demonstrated to the satisfaction of the medical profession, and is well understood and admitted as scientifically accurate. From this we would be led to believe that there are certain fixed laws governing and regulating the destructive changes occurring in our bodies, as there are similar laws governing the reproductive, developmental, and reconstructive processes taking place therein. This is what we would be led to expect from a general study of physical and pathological laws. The human body is not influenced at haphazard by excitants, or irritants from without, any more than it is influenced in a different manner by each individual irritant. If the destructive changes wrought in the tissues of the human body were accomplished differently, varying with each specific cause, we would have such a multiplicity in cell destruction that we should be obliged to give up their study in despair. A certain relationship exists, however, between these destructive pro-

[1] An address delivered at the International Medical Temperance Congress, Staten Island, N. Y., July 15, 1891.

cesses, no matter what the nature of their production, or whether the physical or mental system be involved. Destructive changes assume one of two forms, either there is a multiplication of the cell-elements of a part, or there is degeneration in cell-constituents with substitution of effete material. The result is the same in either case, interference with function of the organ or system, and an incapacity to meet the normal demands made upon it without stimulation. We may have this condition produced by causes acting on a previously healthy organization, or the condition occasioning the demand may have been present in the individual from birth, but as a latent, unrecognized defect.

An exact balance of the physical and mental forces in man would not admit of his using alcoholic liquor, for then all his actions would be regulated by his actual physical and mental wants, which would show no departure from the normal. Departure from this normal balance in the physical or mental system is found to produce idiosyncrasy in character or being; when such idiosyncrasies become apparent, and are a source of annoyance to the individual, they assume the importance of a disease. Alcohol drinking is a disease in that it expresses (to a lesser or greater extent) a lack of normality in the nervous structures of the body. The factors responsible for the production of this abnormal condition may be grouped under three divisions—physical, chemical, and social. It has been shown that alterations of nervous structures may be induced in the system by substances other than alcohol, yet without any difference pathologically. This only illustrates a similarity in the method of destruction, but there must of necessity exist primary underlying factors which can be held accountable for the initial condition which demands stimulation. These primary factors are to be found in our physical organization; the secondary and contributory, in chemical irritants and social conditions. They are equally dependent one upon the other, and contribute, though unequally, in the production and continuance of intemperance in the race. Foremost among the physical factors is to be placed that vice of constitution, heredity. The general impression conveyed by this term is that of "direct transmission," that is, that children of drinking parents inherit a predisposition (diathesis) which renders them liable in turn to drink to excess. This view is correct in part, but does not entirely cover the ground, and is confusing. That organizations deficient in vitality, and enervated by excess or disease, will produce successors deficient in vitality, with abnormalities in structure, is a well-certified and demonstrable scientific fact. This holds equally true in vegetable as well as in animal life. Certain precautions taken, or favorable conditions existing, in the life of the successors, may prevent the actual recognition of the deficiency, but it is present nevertheless. The primary protoplasmic cell from which we all spring, as the first recognizable unit of human existence, is dependent for its normality upon the stability of the aggregation of cells in its parents, the union of which is responsible for its existence. The subsequent life of this cell and its products depends in part on the nearness to perfection to which the primary cell approximates, and in part on extrinsic circumstances. While transmission of cell imperfection from parent to progeny so definitely follows, it does not of necessity follow that the imperfection will be transmitted in definite order, or that the manifestation produced as a result of this imperfection will assume a similar form—that is, it does not follow if the parents' nerve-cells be degenerated by alcoholic excesses, that the children of such a parent or parents will evidence this transmitted imperfection in similar manner, in similar alcoholic excesses. The impression is transmitted, but the manner of its distribution will determine where and how the deficiency in the child will manifest itself. The departures and exceptions in transmission of hereditary impressions can only be explained by a recognition of the possibility of an interchangeability in the manner of hereditary transmission. Admit that imperfections in cell-structure may be transmitted from parent-cells to their successors (and this is a fundamental principle in the cell-theory), it must of necessity follow that the original cell from which we base our existence must contain that element in its protoplasm. How, then, can we account for the different manifestations produced by primary imperfection in different offspring from the same parents?

A study of the development of the embryonic cell from its inception will afford us a possible solution. This primary cell increases by the production of cells similar in all appearances with itself, and originating within itself. This multiplication continues until an aggregation of cells exist similar in all recognizable respects to itself. After, however, this self-multiplication of the cell has continued for some little time, we notice a process of differentiation to occur—that is, these cells, similar in all particulars, are known to divide into three parts, which begin to assume specific characteristics and functions, being variously modified to meet the requirements of the system they are designed to serve. The three divisions that result represent the three grand systems of the human body, namely, the locomotor, the nervous, and the glandular. Imperfections in the parents' cell-structure may be transmitted to each of the three systems in the differentiation, according to the distribution of the imperfect protoplasm, or they may manifest themselves in two, or altogether, as frequently happens. While we can understand and explain the actual physical changes taking place in the embryo, it is impossible to understand or explain the manner of production of its functional attribute or the manner of the distribution of its primary protoplasm. That function is developed, and distribution of the protoplasm is known to occur, are admitted physiological facts; but the explanation for these phenomena can only be given by our Creator, and are seemingly beyond the reach of science. Alcoholic parents, or parents the victims of other so called vices or crimes, may transmit their peculiar nervous manifestations direct, or they may evidence themselves in one of the other systems, as various physical disorders. Conversely, parents who have never indulged in alcohol, but in whom structural changes have been wrought in the liver, kidney, heart, circulating system, etc., remote from the nervous system, may have the degeneration transmitted and manifested in the nervous system of their children as a condition seeking gratification in morbid excesses or criminal acts. The connection between mental and physical diseases, and their mental interchangeability by hereditary transmission, may be more fully appreciated by keeping in mind the diseased conditions produced in the system by alcohol and various other substances, as cited. All the conditions mentioned, pathologically considered, depend either on a multiplication of cells or their degeneration. Alcohol may produce so-called "Bright's" disease in an individual, or "Bright's" disease may result from causes remote from alcohol. The actual changes occurring in the organization, however, are the same, resulting in destruction of tissue in one of two forms, with impairment of function.

The man having "Bright's" disease as a result of indulgence in alcohol, may beget children who will not have any craving or desire for alcoholic stimulants, but will be deficient physically. The children of the man acquiring "Bright's" disease in cause remote from alcohol may, on the other hand, beget children in whom there will be no noticeable physical defect, but who will have developed to a marked degree the nervous diathesis which predisposes them to excesses in nervous energy. On the other hand, the imperfections transmitted may be evidenced in a variety of ways in the same family. A perfect balance and stability of the cells of the body would preclude disease or excesses of any kind, but the preponderance of elements, or transmitted peculiarities in structure in one system, does not of necessity indicate disease, although it favors it. We have many instances where children of

drinking parents have developed traits of character and habits of application which have carried them far ahead of all competitors in their respective walks in life, while brothers or sisters indulged in excesses which carried with them the physical or mental ruin of the individual. It is possible and probable that these transmissions of imperfections, manifesting themselves in another generation as one sidedness in physical or mental development, are responsible for the production of the brightest intellects. This one-sidedness of character is very aptly illustrated in the so called "genius," who is notably erratic, approximating only in a useful direction to the monomaniac. Peculiar development of mental characteristics depends on something more than mere intellectual cultivation, there is an inherent something in the organization which directs and forces recognition. Environment and circumstance, however, may change a prospective "genius" into a drunkard, or *vice versa*. Excessive development in one direction will bring increase of perfection in that direction, but that this perfection will be transmitted as such cannot surely be expected any more than that an acquired imperfection will be transmitted as a similar imperfection. There seems to exist a conservation of the forces in this interchangeability which, according to circumstance and environment, may develop by transmission good from evil, or evil from good. This mutual interchangeability and dependence of the physical and mental force has an analogous illustration in other natural fields, as in that mutual dependence which is found to exist between the animal, vegetable, and mineral kingdoms, as well as in the intimate relationship and dependence which exist between the various organs and systems in the human body. The acceptance of a law permitting of interchangeability in transmitted tendencies does not invalidate that generally accepted law admitting the transmission of imperfection in cell structure; it only serves to emphasize it by pointing out the variety of results originating from a common source. This conservation of the physical and mental forces, and the methods of interchangeability and compensation, is only another evidence of the merciful kindness of our Creator, evidently designed as an offset to the evil propensities and general neglect of natural laws by mankind in general. If some such law did not exist in nature, man would fast degenerate in a direction in keeping with the circumstances under which we are placed, and which certainly cannot be said to be good.

MEMOIR OF FORDYCE BARKER, M.D., LL.D.[1]

By WILLIAM T. LUSK, M.D.,

NEW YORK.

Dr. Fordyce Barker was born in Wilton, Me., on May 2, 1818. His father, Dr. John Barker, was a busy country physician. He had been for two years an army surgeon, in the war of 1812. As I remember him, he was a man of distinguished presence and of courtly manners. The relations of father and son to each other were in those days ideal. The elder seemed to delight in the exuberant spirits of the younger, while the latter, in spite of his natural gayety, never forgot the reverence of deep filial respect. The motto on the family crest, *Semper constans et fidelis*, seems to indicate that the Barkers were regarded by their neighbors as true and loyal friends.

Dr. Barker's mother, Phœbe Abbott, was an engaging, refined, and intellectual woman. The Abbotts recall the words of Dr. Holmes: "We have in New England a certain number of families who constitute what may be called the Academic Races. Their names have been on college catalogues for generations. They have filled the learned professions, more especially the ministry, from the old colonial days to our own times."

Wilton is situated in a picturesque country not far from the Rangeley Lakes. It is an agricultural community with about twenty-five hundred inhabitants. In recalling the surroundings of Dr. Barker's childhood, it is necessary to bear in mind that in the early part of the century agriculture was still the leading industry of New England. Theological speculations, the Sunday sermons, the town meetings, and divisions of opinion concerning the political theories of Hamilton and Jefferson, kept the faculties awake, and offset the stagnation of rural life. Farmers then read books, and on grand occasions some of them wore ruffled shirts, and did not despise the amenities of social life. Their political ideal was George Washington, and not sockless Simpson.

The Barker homestead was a one and a half story house. It stood on a hill-top and commanded an extensive view. In the rural scenery surrounding that isolated domicile there must have been much to feed the imagination of the young boy.

There were no regular schools in Wilton, so Fordyce's early training was conducted by his parents, and no boy ever had better teachers. He had read the New Testament aloud to his mother by the time he was six years of age. His father was a great lover of books, and knew how to impart to the son his own fondness for reading. The rule of the house was stern, but tempered by affection. The beautiful mother writes in her diary, May 2, 1819: "My little Fordyce is one year old this day. O Lord, I do not ask length of days, riches, nor honor for him, but be pleased to grant me this petition. . . . If his life shall be spared, may he seek the Lord, in his youth, and flee from the vanities of this deceitful world. Bestow upon him, O Lord, a meek and docile disposition, one that delighteth in the ways of godliness."

At eleven years of age he was sent to China, Me., where he began his classical training under the tuition of his uncle, John S. Abbott, afterward a prominent lawyer at Norridgewock and Boston. At the end of a few months he was, however, withdrawn and placed at a school which had been opened by Professor Green at Farmington, seven miles from Wilton. While there he was an inmate of the family of an aunt (his mother's eldest sister), for whom he ever retained a warm affection. In September, 1832, he was sent to Limerick, Me., sixty to seventy miles from his home. It was thought at the time that he would still need two years to complete his preparation for college, but thanks to his diligence and aptitude, he was able to enter Bowdoin the following year. In Limerick he made his home with the Rev. Charles Freeman, the pastor of the Congregational Church, who had married another of his mother's sisters. Mr. Freeman was a rare scholar, and his wife was a highly educated and accomplished woman. It is interesting to note that in early life the boy's natural gifts received their full development by wholesome training, and by intercourse with cultivated, scholarly people.

In 1833, at the age of fifteen, young Barker began his college career. Bowdoin, his Alma Mater, was a small college, but as Daniel Webster said of Dartmouth, "there are those who love it," and the faculty of Bowdoin College in those days was one in which a man might in after-life take a just pride. The President, William Henry Allen, was a typical scholar, and was possessed of enormous industry. He collected 10,000 words not contained in standard dictionaries; his "American Biographical and Historical Dictionary" contained 7,000 names; in "Junius Unmasked" he sought to prove that Lord Sackville was the author of the famous letters; and besides these better-known of his works, he wrote sacred songs, biographies, poems, and memorial addresses without number. Longfellow and Daniel R. Goodwin held in succession the chair of Modern Languages; Alpheus S. Packard was Professor of the Ancient Languages; Thomas C. Upham taught metaphysics; and Parker Cleaveland—of whom Longfellow wrote the well-known lines, "For him the teacher's chair became a throne"—was the Professor of Chemistry.

[1] Read at a meeting of the New York Academy of Medicine, held November, 1891.

The class of 1837 numbered forty-four, among whom were Governor Gardiner and John A. Andrews, afterward Governor of Massachusetts. All contemporary evidence goes to show that Barker, when a student was a handsome, jovial, winning young fellow, with a beautiful tenor voice. "Sing on, old friend, and enjoy life," one of his fellow-students writes in his class album. Another speaks of his "smiling face," "his hopeful character." And still another wishes that he "may conciliate as many friends in the world as he has in college."

I have heard Dr. Barker disclaim any pretence to scholarship while at Bowdoin. Nevertheless we know that he was at college, as in after-life, a great reader, with a wonderfully retentive memory, and with a natural gift of eloquence. He was only fifteen years of age when he, in response to their invitation, delivered the Fourth-of-July oration before the townspeople of Wilton. When twenty-one he was a popular speaker in the Harrison campaign.

After graduation young Barker began the study of medicine. His father had indeed urged him to select another profession, but the scientific bent of the boy's mind was decided. He had shown in college more taste for collecting shells than for Greek construction, and the desire to follow in his father's footsteps came to him as a matter of course.

The Faculty of the Bowdoin Medical School, from which, four years later, Barker received his degree, was made up of Henry H. Childs, James McKeen, Jedediah Cobb, Joseph Roby, John Delamater, and Ebenezer Wells. Of these Delamater was one of the most successful medical lecturers this country has ever produced.

There were in those days no clinical advantages connected with the country schools, but then the preceptorship system was a reality, and a large, varied country practice, such as the elder Barker possessed, afforded abundant material for instruction to an eager, inquiring lad; and in this instance the preceptor was a man exceptionally gifted and wise.

In the youth's professional training, provincial narrowness was avoided by a year spent in Boston, where he busied himself with hospital work, and where, as the private pupil of Professor Bowditch, he gained access to the higher professional circles, which were to him an additional inspiration.

In 1841, at the age of twenty-three, Fordyce Barker received the degree of Doctor in Medicine. Owing to signs of incipient phthisis, he was advised by Dr. Bowditch to establish himself in practice in a locality where the climate was more genial than that of his native State. He accordingly started in the summer-time, on horseback, and rode in a southerly direction. Travel in New England was then still to a great extent by stage, or by personal conveyance. The post tavern was comfortable, and the main roads were fairly good. To a young fellow with a sweet voice, a handsome face, and plenty of letters of introduction to families living *en route*, the journey must have been a pleasant one.

With his arrival in Norwich, Conn., his journey ended. As he rode through Washington Street in the bright morning light, the picturesque Cove, the beautiful old elms, and the fine colonial houses with their extensive lawns, impressed his imagination like a fairy dream. The old town was reported to be singularly free from the scourge of New England, *i.e.*, consumption, and so here our young physician decided to establish his home. No new comer was ever more welcome. The social stiffness of the gentry softened at his good humor and kindly laugh, and the young men of talent quickly became his devoted adherents and his life long friends.

In those days society in Norwich presented many features of interest. There were plenty of Huntingtons, and Trumbulls, and Williamses, and Tracys of the first generation from the big wigs of the Revolution. The Fourth-of-July platform still furnished one or two surviving soldiers of the war for independence. Poor Hannah Arnold was ninety years old and looked like a witch. She lived in a small, mean, red house, and was shunned by everyone—the vicarious victim of the popular hatred for her cousin Benedict. There were one or two relicts who on grand occasions wore gowns with short waists and long trains, that had been carefully preserved for half a century. Asa Fitch had lived many years in France. On his return he reproduced at Fitchville a Yankee version of Versailles, and delighted us boys with a display of the fine manners of the old *régime*. Richard Adams, a West Indian, who read the *Albion* to his dying day, and never surrendered his allegiance to King George, upheld the standard of British politeness. At the head of the bar were Henry Strong and Lafayette S. Foster, both of whom became, later, senators of the United States. The leading clergymen were William F. Morgan, afterward the well known rector of our St. Thomas's, and Parson Gulliver, irreverently termed by the Irish "the red-headed priest," to whose battle against the supineness and indifference of its citizens Norwich now owes what is perhaps the finest free-school system in New England. Dr. Farnsworth was the leading physician—a big-headed, big-hearted, quarrelsome man, intense in his hatred, but with a woman's tenderness of heart. He loved Barker. At the time we are commemorating, William A. Buckingham, afterward Connecticut's great war governor, was training for his future solemn responsibilities by leading in prayer-meetings.

More immediately in Dr. Barker's own set were William and Frank Bond; Edmund Perkins, whose fiery eloquence used to make our pulses throb; Henry Huntington, for many years the Paris correspondent of the *Tribune*, and Louis and Donald Mitchell. The latter was wont to declare that the "dear Fritz" of the Lorgnette's letters was his friend Dr. Barker. My list would not be complete without the name of Captain, afterward General, Daniel Tyler. Tyler was of great service to Barker. He had the buoyant spirit which lifted up the hearts of his friends in adversity; which never doubted their success, and which indignantly stamped under foot the work of cowards and sneaks who seek to effect the ruin of others by insinuation and subterfuge.

I speak of these friends of Barker's youth because they were loyal to him through life, they rejoiced in his prosperity, and were proud of the honors that were showered upon him. And who can say how far a man's success in life is due to his ability to command the fidelity of his friends?

For those who remember Dr. Barker's singular timidity in latter years, as regards the use of the knife, it may seem strange to learn that his early aspirations were to become a surgeon.

On September 14, 1843, he married at Harrisburg, Pa., Miss Elizabeth Lee Dwight, whom he had previously met in Norwich. Her grandfather, Captain Benjamin Lee, was related to the two Pitts, and had been a fellow-midshipman in the British Navy with Lord Nelson and Prince William, afterward the sailor king of Great Britain.

On October 1, 1844, Dr. Barker set sail with his young wife from New York for Havre, in the ship St. Nicholas, of 900 tons burden. Foreign travel was confined then to a comparatively select class, and the long voyages were prolific in lasting friendships. On this occasion our Fortunatus met for the first time Mr. John Astor, Mr. Newbold, the Messrs. Edgar, the Henry Masons, and Mr. Ogden Hoffmann, Jr. In after-life the friendship of youth with these men ripened into a tie of brotherhood.

In Paris, during the winter of 1844–45, he was indefatigable in his attendance upon lectures and clinics. Paris then stood at the head of the medical world. Among the names that lent lustre to its famous school were those of Cruveilhier, Nélaton, Velpeau, Dupuytren, Laënnec, Louis, Trousseau, Dubois, Huguier, Lisfranc, Chomel, and Jobert de Lamballe. Imagine the trans-

ports of an ambitious young man when admitted into such a fellowship!

Dr. and Mrs. Barker made for themselves a pleasant home in the Hôtel de Hollande. In both the social instinct was strong, and the American circle in Paris was most agreeable, so the winter passed rapidly. June and July were spent in travel, and in August they set sail for New York by the Cunard steamship Caledonia. Among the fellow-passengers was Sir Henry Holland.

On their return home a way to the leading practice was opened to the young physician, by the temporary retirement of Dr. Farnsworth, who had previously, as indeed he did afterward, exercised supreme authority in medical matters in Norwich and its vicinity. The next few years were pleasant ones. In Norwich his only son was born; he was trusted by all in his professional capacity; he brought happiness into the sick-room by his gentleness and cheerful spirits; he could tell a good story; he could sing beautifully; he could play the organ, the piano, and the trombone; he had composed music to songs; and it is needless to say he was welcome everywhere.

In Paris he had taken an eager interest in obstetrics and the new department of gynecology. In 1846 he was appointed Professor of Obstetrics at Bowdoin, but filled that office for only one year. He was too busy to spare the time.

In May, 1848, he delivered the annual address before the Connecticut Medical Society. It bore the title: "On Some Forms of Disease of the Cervix Uteri." It possessed the qualities of his later writings. The arrangement was clear, the style was elegant, and the writer had something new to tell. Before the reading of the address the writer had local fame; afterward, he had won distinction.

When, two years later, the organization of the New York Medical College was being effected, the Chair of Obstetrics was offered to Dr. Barker. Its acceptance involved his removal from Norwich, and was strongly opposed by many of his warmest friends. He had already, they argued, a comfortable income, and an ensured future, advantages which it would be foolish to put aside for the hazards of a new fortune. But Dr. Barker was thirty-one, and of a sanguine temperament.

In March, 1850, he moved to New York. His first home was at No. 16 East Eleventh Street, near Grace Church. The New York Medical College was not a success. It had in it, indeed, elements of promise. For instance, the faculty was on the whole a strong one: Carnochan, Peaslee, Childs, Barker, and Doremus were able lecturers, Davis brought with him a fine reputation from the West, and Green had his votaries. But the school did not fill a want, and it received from the profession of the city a step-child's welcome. Aside from the incidental disciplinary advantages, it did very little to further the interests of its promoters. Dr. Barker's own connection with it ended in 1857.

In recalling the medical instruction of those days, it must be remembered that the clinic, in a proper sense of the term, did not exist. The popular teacher endeavored to make good the defect by the recital of illustrative cases from his own practice. These were sometimes thrilling, sometimes pathetic, sometimes humorous. They afforded fine scope to persons of natural oratorical gifts, and it is needless to say that among the old college favorites Dr. Barker was *facile princeps*. As a medical correspondent once stated it, when he came to New York, in the early sixties, it was all Dr. Barker and obstetrics, whereas a dozen years later it was gynecology and Dr. Thomas. But those halcyon days have now departed. At present, with object teaching at the bedside and in the laboratory, the didactic lecturer is rapidly being relegated to the rank of a privileged bore.

From the time of Dr. Barker's first entrance upon life in New York, he often responded to calls made upon him to participate in discussions upon current questions. Thus we find among his early papers a pamphlet termed, "A Plea for Hospitals." It is full of interesting information and of old-time eloquence. I will not quote from it here. Fashions change, and eloquence is ephemeral.

It was my privilege in 1853, while in attendance upon the old Anthon Grammar School in Murray Street, to spend a few months in Dr. Barker's family. His practice was at that time small. It is needless to state to a body of physicians that neither popularity as a teacher nor distinction as an essayist influence the number of visitants in a practitioner's ante-room. Yet no one who knew Dr. Barker then doubted for a moment his ultimate success. He was handsome, ambitious, and hard working. Though he could not be extravagant, there was always a seat at his table for a friend. His loyal wife made everyone welcome. The dinners were unostentatious, but the talk was always good, and to a young lad an education. From the outset he gained admittance to the literary circles of the city. Within a year he was made a member of the Century Club. Donald Mitchell was his dearest friend. He became intimate with Washington Irving; Thackeray, who lectured here in 1855, delighted in his companionship. He was the "beloved Æsculapius" of Dr. Hawks. Old Dr. Francis extended to him the right hand of fellowship. The acquaintances he had made in Europe welcomed him to their homes. When his bachelor friends married their wives became his ardent supporters.

In 1857 he removed from a patient, by enucleation, a uterine submucous fibroid. The woman had previously consulted the most eminent surgeons of London and Paris. They had given her no encouragement. She was the member of a large and influential family. When she recovered, Dr. Barker was adopted by the entire clan. To his dying day these early friends sustained his fortunes, fought his battles, and were jealous of his rivals. From this time forth his career was a succession of triumphs. He was an excellent practitioner, kindly and sympathetic. He was an ingenious therapeutist, with more faith in hygiene than in tartar emetic, or in calomel. He loved his profession, and kept abreast with every advance in science. The confidence and affection he inspired in his patients was almost touching. When in 1866 he held out his hand to help me as a young man, his clientèle included nearly every one that was fashionable or famous.

But in the midst of his prosperity his many little deeds of kindness must not be forgotten. To his readiness to help young men in their early struggles many of my hearers doubtless can personally testify. A few days ago I received the following letter:

"NORWICH, CONN., October 24, 1891.

"MY DEAR MRS. BARKER: It is needless to reiterate the profound sympathy which my wife and I feel for you in the loss of your distinguished husband. Gratitude prompts me however to relate an incident, which occurred to me during the late Civil War, which illustrates Dr. Barker's generosity and patriotism.

"After the capture of Fort Pulaski, at the mouth of the Savannah River, by our troops, I returned to the North an apparent wreck from the results of typhoid fever. My physicians said that my days of usefulness were numbered, and that I never should be able to rejoin the Army again. My heart was filled with deep chagrin, but resolution succeeded despondency, and with great effort I dragged my emaciated body to New York to consult Dr. Fordyce Barker. He came to see me, at the Fifth Avenue Hotel, with Mr. Wm. Bond. The doctor carefully diagnosed my case, and then said—with a pleasant smile which I cannot forget—'You must have a wonderful constitution to have survived so much quinine and blue mass, as you have taken; the treatment must be changed at once.'

"A few days later the change for the better was marvellous—I was able to call on him. A week later he gave me a lunch at Delmonico's. Three weeks later I

returned to my command at Beaufort, S. C., in perfect health. Imagine, if you can, my pleased and grateful surprise when, on asking Dr. Barker for his bill, he said to me 'I feel well paid in seeing you strong again. I shall take nothing from you, nor will there be any charge from me for treatment of Norwich soldiers who may desire my services during the war.' What could have been more gratifying to a young soldier who had expected to pay several hundred dollars for the restoration of his health and prospects in life?

"I am, with high esteem, yours sincerely,

"WM. G. ELY (by A.)."

From my intimacy with Dr. Barker I can affirm that in the days of his prosperity, while his time was precious, and every moment was of value, he never showed impatience when called upon to render professional aid to old friends overtaken by adversity.

In 1857 Dr. Barker took part in a discussion on Puerperal Fever before the Academy of Medicine. The subject at the time excited great interest. The contemporary record states that the hall was crowded. Dr. Barker's address possessed the singular clearness that marked all his public efforts. With great dialectic skill he maintained in the face of the prophets the doctrine of the essentiality of the disease. The views he then expressed interest us, as they furnished the basis and incentive in after years for his great work on the Puerperal Diseases. This, the product of his ripened experience, is probably the best piece of medical literary workmanship this country has produced. To be sure, the doctrine inculcated is now dead, killed by the investigations of Koch and Pasteur, but it must be recognized that it did good work in its time by checking the prevailing tendency to exclusivism, which insisted that puerperal fever was a metritis, or a phlebitis, or a lymphangitis, or some other single form of uterine inflammation.

In 1860 Dr. Barker was President of the New York State Medical Society. In 1861 he was one of the organizers of the Bellevue Hospital Medical College, and lectured in that institution until 1867, when, because of his vocal difficulty, he decided that it would be prudent to give up the regular filling of his professional duties. He continued, however, to give clinical lectures at intervals in the Bellevue Hospital.

From 1860 to the end of his professional life Dr. Barker was engaged in reaping the fruits of his high reputation. His general and consulting practice rapidly increased. When it was known that he was to take part in society discussions he was sure to be met by a throng of sympathetic listeners. The laws of legal evidence had for him a peculiar fascination, and his opinion as a medical expert came to be highly valued. His acquaintance included most of the prominent men of the day. Mr. Seward, Mr. Fish, Mr. Blaine, President Grant, President Arthur, Mr. Bancroft, Richard Henry Dana, David Wells, Oliver Wendell Holmes, and Charles Dickens, are only a few of those I now recall from his intimate associates. In 1858 he began the summer trips to Europe which, with the exception of a single year, were repeated to the time of his death. They did much to prolong his useful life, and made him a host of friends in European countries. Personally, I owe many valued acquaintances in foreign lands to letters of introduction which he gave to me. I know therefore from experience of the love and admiration he excited abroad as well as at home.

In 1873, Dr. Barker associated with him Dr. A. A. Smith. The union proved a fortunate one. Through the fidelity and devotion of the younger man, he soon found himself relieved from a large amount of detail work, and wiht time to devote to the general service of the profession, and to the boards of many of the great charities of the city.

In 1876–7, he was President of the Gynecological Society. In 1879, he was called to the presidency of this Academy, an office he filled for six years. They were years of unexampled prosperity. Under his benign rule, membership in the Academy came to be regarded as a coveted honor; the meetings were crowded; the papers read were of a high order. He was probably the best presiding officer the medical profession in New York has ever possessed. His kindly disposition calmed troubles in the council chamber, and softened the asperities of debate. In the negotiations for the library of the Medical Journal Association, I again speak from experience when I state that it was his patience and unruffled temper which secured for the Academy that priceless treasure.

He received the degree of LL.D. in 1878 from Columbia College; in 1884 from Edinburgh on its 300th anniversary celebration; in 1887 from Bowdoin on the occasion of the fiftieth anniversary of his class; in 1888 from the University of Glasgow; and a similar compliment was offered him by the University of Bologna on its 750th anniversary, but he was prevented by illness from being present for its reception.

In 1885, I called on Dr. Barker in London. He was living in an apartment in a retired part of the city, 19 Fitzroy Square, as he wished to be out of the way of callers and invitations, that he might have leisure to complete a new work upon which he had been some time engaged. I was much impressed with the unwholesome appearance of the house, and the forlornness of its surroundings. An illness followed a short residence which left him with impaired health. For three or four years he continued in active practice, and his home was the scene of its wonted hospitality. Then came the time when he was obliged to measure his strength. He never, however, abandoned his profession altogether. He still called professionally on his old friends, took part in consultations, and received patients at his office; but it was the work of a brave soul battling with adversity. To the close of his life his intellect remained clear. On Wednesday, May 28th, he dictated a letter to a physician seeking counsel. He died on May 30, 1891, a few minutes before three. He was conscious until nearly noon. Two years previously he had been confirmed by Bishop Potter in the Episcopal Church. All his life through he had studied with the keenest interest the problems of a future state. Bishops Lee, Clark, Bedell, and Brooks, and Doctors Morgan and Hawks had been his devoted friends. There was no sharp break in his life when he took his first communion, but toward the end, when in anguish and pain, his religious faith gave him the fortitude to bear his burden with dignity, without complaint, and with beautiful resignation.

My poor words can add nothing to his fame. They have been written with reverence and tenderest affection.

Some of the Societies and Organizations to which Dr. Fordyce Barker belonged.—The Century Club, one of its oldest members, in 1851; Fellow of the Academy of Design, New York City, 1864; American Geographical and Statistical Society, May 15, 1850; American Bible Society, Life member, June 12, 1867; St. John's Guild, member, June 20, 1871; University Club; Church Temperance Society; Charity Organization Society; Life member Metropolitan Museum of Natural History; Physicians' Mutual Aid Association; Fellow of the London Medical Society, November 4, 1878; Member of London and Edinburgh Obstetrical Societies; Corresponding Member Philadelphia Obstetrical Society, January 5, 1874; also Fellow or Member of the Royal Society of Greece, and elected President of the Anglo-American Society of Paris for the meeting of October 6, 1890, unable to be present.

LIST OF THE PUBLISHED WRITINGS OF DR. FORDYCE BARKER.

1848. On Some Forms of Disease of the Cervix Uteri. (Address as President of the Connecticut Medical Society, May, 1848, and printed in the Proceedings.) 8vo.

1851. A Plea for Hospitals. (On the necessity for a new hospital in the City of New York.) New York.

1853. Lectures on Uterine Displacements. Reported by B. T. Roath. Lecture First. (Reprinted from New York Medical Gazette.) New York: Baker, Godwin & Co. 23 pp., 8vo.

1854. On the Induction of Premature Labor. (American Medical Monthly, New York, 1854, vol. i., pp. 270-275.)
1857. A Case of Fibrous Tumor of the Uterus, Accompanied with Excessive Hemorrhage, Successfully Treated by Excision. New York. 8 pp., 8vo.
1857. Remarks on Puerperal Fever before the New York Academy of Medicine, October 7, 1857. (Reprinted from American Medical Monthly, New York, November, 1857.) New York: E. P. Allen. 23 pp., 8vo.
1858. On the Comparative Use of Ergot and the Forceps in Labor. Address as the President of the New York State Medical Society, February 12, 1858. (Reprinted from the American Medical Monthly. New York, 1858.) New York: H. B. Price. 16 pp., 8vo.
1858. Remarks on Puerperal Fever before the New York Academy of Medicine. October 6, 1858. By Fordyce Barker and A. K. Gardner. New York. 16 pp., 8vo.
1861. On the Use of Anæsthetics in Midwifery. Read before the New York Academy of Medicine, November 20, 1861. (Transactions of the New York Academy of Medicine, vol. ii., part 8, pp. 251–268.) New York: S. S. & W. Wood. 8vo.
1861. An Effort to Shorten the Duration and Diminish the Pain of the First Stage of Labor; with a Record of One Hundred and Forty-seven Cases. (American Medical Monthly and New York Review, 1861, vol xv., pp. 1–9.)
1864. The Rise in Harlem—a Comedy.
1870. On the Treatment of Croup. A Letter to Professor A. Jacobi. New York: W. A. Townsend & Adams. 16 pp., 8vo.
1870. On Seasickness: A Popular Treatise for Travellers and the General Reader. New York: D. Appleton & Co. 36 pp., 12mo.
1871. Blood-letting as a Therapeutic Resource in Obstetric Medicine. (Reprint from New York Medical Journal, 1871.) New York: D. Appleton & Co. 14 pp., 8vo.
1874. The Puerperal Diseases: Clinical Lectures Delivered at Bellevue Hospital. A Course of Lectures Valuable alike to the Student and the Practitioner. (This work is now in its fourth edition. It was republished in London. A German translation was issued at Leipsic, an Italian at Milan, a French at Paris, a Spanish at Madrid, and a Russian at St. Petserburg.) New York: D. Appleton & Co. xiii., 526 pp., 8vo.
1875. The Relation of Puerperal Fever to the Infective Diseases and Pyæmia. An Address Delivered at the Obstetrical Society of London, July 7, 1875. Louisville. 15 pp., 8vo.
1876. Vaginal Hernia or Vaginal Enterocele. Remarks before the New York Obstetrical Society, on a case communicated by B. A. Clements, M.D., Surgeon U.S.A. June, 1876.
1876. Annual Address before the American Gynecological Society as Its First President.
1877. Relation of the Urinary Organs to Puerperal Diseases. Remarks on Paper of W. M. Chamberlain, A.M., M.D.
1877. Discussion on the Influence of Medicines, Particularly Narcotics, on the Infant, when Administered to the Mother during Pregnancy and Labor. By Drs. Mundé, Barker, Peaslee, Gillette, Thomas, and others. (Reprinted from American Journal of Obstetrics, New York, 1877, vol. x.) New York: W. Wood & Co. 37 pp., 8vo.
1878. Remarks on Obstetric Forceps. Tarnier's new instrument. (American Journal of Obstetrics and Diseases of Women and Children, January, 1878.)
1878. Induction of Premature Labor in the Albuminuria of Pregnancy. (American Journal of Obstetrics and Diseases of Women and Children, July, 1878.)
1879. Inaugural Address Delivered before the New York Academy of Medicine, January 16, 1879. New York: Printed for the Academy. 14 pp., 8vo.
1880. Puerperal Malarial Fever. (American Journal of Obstetrics and Diseases of Women and Children, April, 1880.)
1881. Second Inaugural Address, Delivered before the New York Academy of Medicine, February 3, 1881. New York: Printed for the Academy. 20 pp., 8vo.
1881. Address on Behalf of Street-cleaning, April 13, 1881.
1885. Valedictory Address as President of the New York Academy of Medicine.
1886. Influence of Maternal Impressions on the Fœtus.
1887. Address at the Opening of the New York Cancer Hospital, December 6, 1887.
1890. Address at the Opening of the New York Academy of Medicine, January 17th.

A collection of Dr. Barker's papers were translated into German by P. Sprangenberg, and published in Berlin in 1866. Another collection was translated into Italian by Alesandro Camusso.

"**A Sad Mistake.**—A writer in the *Hospitals Gazette* quotes the following story, said to have been related by Sir Richard Quain, M.D., which perhaps points a moral. He was attending the wife of an old patient, and at one of his visits the husband set him thinking by saying to the doctor, "I greatly appreciate the anxiety you feel for my poor wife, but do not let her see it again, for after you left the room she asked if you were the undertaker." As Dr. Quain rather prided himself on having a good bedside manner, he felt that he was being taken down a peg or two.

Progress of Medical Science.

The Rôle of the Liver in the Production of Urea.—Until the time of Prevost amd Dumas, it was believed that urea was formed in the kidney. These physiologists proved, by their experiment of removing the kidneys in animals, that urea is preformed in the blood or in the tissues, and from that day the kidney has been regarded rather as a filter than as a secreting organ destined to elaborate substances not previously existing in the blood. Subsequently the doctrine was promulgated that urea is formed everywhere in the economy where nitrogenous waste is going on, its sources being metabolism of tissues and of unassimilated food-proteids. The muscles were believed to constitute no inconsiderable source; Wurtz's observation that lymph contains more urea than blood is suggestive of a direct relationship between urea and tissue-metamorphosis. The facts which have given rise to the belief that the liver is the principal, if not the only, producer of urea, may be briefly stated as follows: It was discovered, as early as 1846, that the urine of persons affected with chronic hepatitis contains little or no urea; twenty years later Meissner, basing himself on accurate analyses of the urine in acute yellow atrophy of the liver, laid down the law that destructive diseases of the liver entail diminution or suppression of urea. Bouchardat, in 1867, proclaimed that certain lesions of the liver are attended with augmentation of urea-production, while others cause diminution. Brouardel and Murchison enriched medical literature by new observations, showing "that the quantity of urea secreted and eliminated in twenty-four hours is dependent on two principal influences: the state of integrity or alteration of the hepatic cells, and the greater or less activity of the hepatic circulation. In those cases which are characterized by augmentation of urea, the liver has not been found to be the seat of grave organic lesions, but only of simple functional disturbances, a hyperæmia, it may be, similar to what is observed in a certain number of cases of diabetes. In one case of spasmodic icterus, Bouchardat noted the enormous quantity of one hundred and thirty three grammes of urea in the twenty four hours, and the excretion continued in this proportion for three or four days. Fourcroy and Vauquelin also announced about the same time (1846) that in icterus the urine may contain a very large proportion of urea. Fouilhoux subsequently reported a case of simple hepatitis in which the figure of urea was double the ordinary. Facts of the second group—where there is diminution of urea—belong to cases of destructive lesions of the liver, where the whole extent of the hepatic parenchyma is affected. Under this head we find acute yellow atrophy of the liver, common cirrhosis, cancer of the liver which has invaded large portions of that gland, hydatid cysts, abscesses of considerable dimensions, granulo-fatty degenerations of the liver, whether following grave infectious fevers or induced experimentally in animals.

Meissner's treatise contains the principal observations which have been made on animals confirmative of the pathological observations above mentioned. According to this authority, urea is not found in the muscles or in the lungs of mammals, but almost exclusively in the liver. In the liver of a dog which was bled to death, several centigrammes were obtained; the organ was carefully washed, and the vessels flushed out with warm water before being subjected to analysis. The results obtained by Meissner have been confirmed by Cyon, who concludes "that there is a real and rapid production of urea in the passage of the blood through the liver." Cyon appeals to facts similar to those adduced by Claude Bernard, to prove that the liver produces sugar: the blood of the hepatic vein is found to contain more urea than the blood of the vena portæ.

Lecorché and Talamon do not dispute the proposition that the liver produces urea, or that there is more urea

in the hepatic than in the portal vein; they do dispute that the liver is the sole or the principal urea-forming organ. To the statement that in destructive diseases of the liver there is a diminution of urea, they oppose careful observations of their own, where, despite such destroying lesions (diffuse cancer, diffuse venous cirrhosis), the quantity of urea remained normal. This fall in the proportion of urea, of which Murchison and Brouardel make so much in its application to serious hepatic lesions, is equally characteristic of every disease of long duration, of every cachexia, cancerous, tuberculous, or otherwise; it is, however, true, as a general rule, that in affections which alter the structure of the liver, the fall in urea-production is a little greater than in the chronic diseases of other organs. This is easily explained on the ground that the liver is an organ of great magnitude and importance; "it is quite natural that the quantity fabricated should fall considerably when a centre of formation so important is suppressed; but it will not do to push too far the consequences of this fact, and make ureopoiësis, that is, urea making (from the Greek), a special function of the liver." In fine, the diminution of urea, and the appearance of leucine and tyrosine and extractives in the urine are not accidents proper to acute yellow atrophy or other wasting diseases of the liver; "but simply an episode of the general perturbation imposed on the phenomena of disassimilation of the entire organism by the infectious disease."

Lecorché and Talamon next take up the facts adduced by Murchison and others, from which the conclusion is drawn that in states of hyperæmia, or excitation of the liver, the production of urea is exaggerated. This they admit to be true, but "polyuria, with augmentation of urea, is not peculiar to hepatic affections, being only a critical phenomenon, such as may be observed in any other acute disease; lastly, if physiology seems to have demonstrated that urea is formed in the liver, clinical observation does not permit us to believe in a special function of that gland, but only in a phenomenon of disassimilation, such as takes place likewise in the intimate substance of all the tissues of the organism." This, then, which is really the older doctrine, may, we think, be regarded as the latest authoritative teaching of science respecting the puzzling question of the sources of urea in the economy.—*The Boston Medical and Surgical Journal.*

Desquamation en Masse of the Urethral Mucous Membrane.—Dr. Boulland reports a curious instance in which the lining membrane of the urethral canal was shed as a whitish cylinder fourteen centimetres in length and three millimetres in diameter. The patient was a man aged twenty-eight, whose gonorrhœa had been treated for a long time by astringent injections, and who was finally given a bichloride solution, 1 to 3,000. Two days after this was injected there was difficulty in urination, and an obstacle seemed to occupy the canal. This was finally forced out, and was found to be a tube whose walls were formed of epithelial cells which had undergone fatty degeneration, and of a few connective-tissue fibres. Shortly after this occurrence the cure was complete.—*Limousin Médical.*

Nasal Polypus and Hysteria.—Dr. Marcel relates the case of an hysterical girl of twenty-three, who for seven years had suffered from frequent attacks of convulsions with loss of consciousness. The convulsive seizures were preceded by an aura starting like an itching or tickling in one side of the nose, and extending to the eyelids, and thence to the throat, where it caused a sense of suffocation. A polypus was discovered in the corresponding nasal fossa, and upon its removal the attacks ceased.—*Medezina.*

The Squirters of Koch's Lymph is the term applied by an unappreciative Southern contemporary to the gentlemen who are still experimenting with tuberculin.

Clinical Department.

SWEET OIL IN THE TREATMENT OF BILIARY COLIC.

By P. J. McCOURT, M.D.,
NEW YORK.

An editorial article in the Medical Record of October 24, 1891, p. 513, under the above heading, referring to the investigations of Drs. Mays and Bloom, induces me to offer my experience with this remedy.

For the past nine years olive oil is the specific remedy I have prescribed in the treatment of biliary colic. A very considerable number of cases, all of women, have been in my care during that time; and in no instance has the pure oil failed me when directions were strictly obeyed.

My uniform mode of administration has been as follows: The patient is prepared for bed, receives a three-ounce dose of the oil, lies down instantly on the right side, with a slight inclination backward, the pillows being removed from the head and placed under the crest of the right ilium, thus elevating the pelvis, favoring the regurgitation of the oil from the duodenum through the common bile-duct, the hepatic, and cystic ducts, and the conveyance of the remedy to the obstructed viscus.

Morphia, hypodermically, is given when necessary to subdue pain; but this is rarely essential, and relief is usually complete in about an hour—often in thirty minutes.

On the morning following, or from five to eight hours after the oil has been taken, a brisk cathartic, or even a Seidlitz powder, will produce evacuation of the gall-stones and relieve the case.

If, on the other hand, the patient, after taking the oil, is permitted to walk about, or sit up, or even retire without maintaining the position indicated, the results are often *nil*, and a correct repetition of the remedy is necessary to insure success.

I infer that cotton-seed oil is not "just as good," from the fact that olive oil of inferior grade (usually adulterated with cotton seed oil) has rarely afforded relief, while the pure oil, which has a yellow or greenish-yellow tint, has always done so.

I can also vouch for its efficacy as a prophylactic. To persons subject to the disease I have repeatedly ordered the oil—about every third month—in the absence of all symptoms; and very frequently in such cases have biliary calculi, usually of small size, been expelled.

REPORT ON A CASE OF POISONED WOUND BY THE BITE OF A RATTLESNAKE (CROTALUS).

By CHARLES ALBERT SEWALL, M.D.,
ACTING ASSISTANT SURGEON UNITED STATES ARMY, FORT WINGATE, N. M.

Private Ross, Troop C, Second Cavalry, while lying asleep under a rock on a very hot day, the command having halted at Sheep Springs, about forty miles from Albuquerque, N. M., reported that he had been bitten by a rattlesnake about four feet long, and had secured the rattles after killing the snake. The rattles were eight in number. The patient exhibited considerable anxiety, pulse small and thready. Two wounds of about one-eighth of an inch in length each were found at the base of the index-finger of the left hand, dorsal surface. The wounds were about one-half inch apart, and evidently caused by the fangs of the serpent. The swelling was slight, and the hand was red and slightly ecchymosed. The man stated that as soon as he saw the wound be began to suck it violently and continued to do so up to the time he saw me. A ligature was immediately placed about the wrist. Eight drops of ammonia liquor were given in water by the mouth, and the same applied on lint to the wound. Emesis was produced and the hand began to grow black. Ten

minutes afterward whiskey, one ounce, was given in water. The pulse came up at this time and the patient was placed in the ambulance and proceeded on the march, as the command began to move. Whiskey was given every two hours afterward, and no bad symptoms except sick stomach occurring, the man was left and allowed to go to sleep, as the whiskey began to have an intoxicating effect. I must remark that about two hours after the injury the man complained of a numb feeling all over the body, which was dissipated by repeated doses of whiskey. A partial attack of blindness and difficult locomotion came on the night of the injury about 8 P.M., but was soon recovered from. A feeling of nausea lasted about four days, and at the end of that time the soldier was returned to duty apparently well.

Remarks.—1. The sucking of the wound so vigorously by the patient had certainly a very happy effect in preventing the entrance of but little of the poison into the blood. 2. The ligature contributed in a measure toward the same result. The stimulants acted admirably. It is estimated that the whole amount of whiskey taken was eight ounces.

The amount of the venom taken into the stomach while sucking the wound it is believed produced the nausea and anorexia, which lasted until the fifth day after the injury.

A CASE OF HÆMATOMA AURIS WITHOUT MENTAL DISEASE.

By L. W. SPRATLING, M.D.,

ASSISTANT SURGEON UNITED STATES NAVY, VALPARAISO, CHILI.

The following case of hæmatoma auris has come under my notice, and I report it for its lack of connection with any mental disease. A. B—— is a seaman in the United States Navy, and was born at Dublin, September 29, 1861. He first came to the sick bay for treatment on the evening of April 27th, saying his right ear was very painful. It had begun to pain him two hours before, but at that time he didn't notice anything unusual.

Examination showed the external ear swollen into a red, hot, fluctuating tumor, about the size of a hen's egg. The canal was entirely closed by the swelling. About 10 c.c. of bright arterial blood was evacuated by a small incision at the concavity of the concha, and a bandage put on with the idea of applying pressure and preventing re-formation of the tumor, which was almost entirely reduced by the evacuation of blood. A dose of sulphate of magnesia was given. Next morning the tumor was as large as ever. It was again punctured, and rapidly refilled, and no further treatment was given. On May 6th, the patient was discharged to duty, without pain, and the tumor, very little reduced in size, was more firm. It has gradually contracted, until now, August 15th, the fluctuation is gone and the ear is very much thickened and puckered out of shape. There seems to be a considerable amount of new connective-tissue formation. The left ear was affected in the same way two years ago, and is now in the same deformed condition. Hearing is not affected in either. The patient is a robust fellow, 5½ feet high and weighs 155 pounds, ruddy complexion, gray eyes, sandy red hair, and an intelligent face, a little plethoric probably. He has been a mariner most of his life, and spent the three years preceding the occurrence of the first tumor off the west coast of Mexico and Central America, on the United States Steamship Ranger. Family history good, mother and father living—the latter aged seventy and in good health. Denies ever having had syphilis or rheumatism. He is not a habitual drinker. Had a mild attack of typhoid fever after returning to California from Mexico and Central America. This was after the appearance of the first tumor. He has never had the scurvy nor anything tending to induce hemorrhagic diathesis, and shows no symptoms whatever of mental trouble of any kind.

PROLAPSE OF THE BLADDER IN AN INFANT.

By B. S. ROSEBERRY, M.D.,

LACON, ILL.

A case occurring recently in my practice, by reason of its rarity seems worthy of report. I was called to see a child, a female, at whose birth I had officiated twelve days previously. It was a face presentation, but the labor was not particularly tedious and delivery was accomplished without instruments. Inspection at the time revealed no anatomical defect or deviation from the normal in any particular.

On responding to the summons above referred to, I found the child with a protrusion of the anterior vaginal wall and portion of base of bladder through the vulvar outlet, the prolapsed portion being badly strangulated by the constricting action of the sphincter vagina, which grasped it tightly. The condition had existed five hours when first seen by me. At first glance I thought I had to deal with vaginal hæmatocele, but the introduction of the hypodermic needle and the withdrawal of two syringefuls of urine made the diagnosis of vesical prolapse certain. The fluctuating tumor was about the size of a hickory-nut, somewhat flattened laterally, and firmly pressed up in front of and against the pubic arch. The perineum was unusually broad in its antero-posterior measurement for a child of that age, and extremely resistant. By administering chloroform and forcibly pushing the perineum back with the little finger of my right hand insinuated between its edge and the posterior aspect of the prolapsed organ, and by gentle, though firm taxis with the thumb and two fingers of the left hand, I succeeded, without very much difficulty, in restoring the misplaced parts to their normal position, after which an antiseptic absorbent cotton tampon, anointed with vaseline, was placed in the vagina as a support. This was removed in forty-eight hours, and as considerable sloughing was taking place from that portion of the vagina which had been the seat of constriction, the tampon was not replaced. As long as necessary after this the vagina was daily flushed with antiseptic fluid (weakly carbolized water).

The exciting cause of this accident was found in the existence of a diarrhœa, with considerable tenesmus, which had been present for five days. There was, however, no tendency to rectal prolapse, not the slightest eversion of the mucous membrane, which latter, of course, would not have been a matter of any surprise.

The child had considerable temperature for the first week, ranging usually from 103° to 104½° F., but once reaching 106° F. After this it subsided and became normal, remaining so until the death of the patient, which took place from exhaustion, eighteen days from the occurrence of the trouble. Locally the parts did well; the sloughing had about ceased, the bladder retained its position, and the urine was voided naturally.

The child nursed and digested well, but the original shock seemed too great for its infantile recuperative powers, and so a fatal termination ensued. I have not been able to find any similar case reported, and would be glad to know if any of the many readers of the MEDICAL RECORD have met with such a condition in an infant.

The Sei-I-Kwai Medical School, of Tokio, which formerly belonged to the Society for the Advancement of Medical Science in Japan, has recently been placed under the authority of the Tokio Charity Hospital, at the same time changing its name to the Tokio Charity Hospital Medical School.

And Now It's the Druggists' Turn.—The *British Medical Journal* says that the Municipality of Seville has decided to establish two public pharmacies where poor patients may have prescriptions made up for nothing. The local druggists are up in arms against the proposal.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE SPONTANEOUS HEALING OF TUBERCULOSIS.

THE late Dr. Austin Flint used to assert that pulmonary phthisis had in some cases a natural tendency toward recovery. This view he based on clinical evidence mainly. Pathological anatomists have long known that healed tuberculosis of the lung apices was not uncommon. In the *British Medical Journal* for October 31st, is a series of articles which contain a good many new and definite facts regarding this subject. Dr. Joseph Coats, for example, going over his records, finds healed tuberculosis in 24 out of 103 post-mortem records. Of these 24 there were 20 cases of pulmonary, 2 of peritoneal, 1 of mesenteric, and 1 of bronchial gland tuberculosis. None of the patients died of tuberculosis, but it is curious to note that four died of gangrene of the lungs.

Dr. J. K. Fowler gives still more extensive figures, taken from the Middlesex Hospital and the Vienna General Hospital:

Middlesex Hospital, 1879–1886.

Number of necropsies			1,943
Obsolete tubercle in lungs			177 = 9 per cent.
Males	110	Right lung	35
Females	67	Left lung	36
	—	Both lungs	106
	177		—
			177

Institute of Pathological Anatomy, Vienna, 1869–1879 (*Heitler*).

Number of necropsies			16,562
Obsolete tubercle in lungs			789 = 4 per cent.
Males	509	Right lung	69
Females	280	Left lung	65
	—	Both lungs	655
	789		—
			789

Dr. Fowler makes an interesting analysis of the clinical histories of the Middlesex Hospital cases. The average age he finds to be fifty years, and males were found largely to exceed the females. As to the lung affected he says:

"One result, perhaps somewhat unexpected, but confirmed by Heitler's table, is that the process appeared to be more often arrested when both lungs have been affected than while it is limited to one. It is contrary to clinical experience to find the disease simultaneously attacking both apices and equally distributed through both upper lobes; it is therefore probable that in such cases one apex is affected after the other, and possibly in some cases after arrest has taken place there. It will be seen that there is practically no difference between the two lungs as regards liability to infiltration.

"It will be noted that in some of the cases the lower lobe was already affected, showing that this often occurs at an early period. The fact that the lower lobe (about its posterior apex) is involved is therefore no bar to arrest of the disease."

As to the stage of the morbid process, the writer expresses some very positive opinions—opinions upon which the enthusiastic clinician may well ponder.

In the majority of cases the lesion was fibrous or caseous, and in only forty-three cases out of one hundred and seventy-seven is it stated that a cavity was present. It does not follow that the cavity found *post mortem* was a clinically recognizable cavity, or indeed that any cavity at all existed during the period of activity of the disease. Dr. Fowler believes that in many cases it is a false appearance of excavation, produced by the growth of a fibrous capsule, which becomes smooth within, around a caseous mass. This is often described as a cavity with caseous (often blackish-gray) contents. Dr. Fowler's pathological experience gives little support to the view which is held by some, that a cavity, recognizable as such by physical signs, may become completely obliterated. If one is to believe the stories of patients (which, by the way, it is generally better not to do), some authorities appear to have arrived at such an "altitude" of diagnosis that they can trace (on paper) the gradual shrinking of a cavity up to its final obliteration. One frequently sees a thick-walled cavity which has both contracted and altered its shape, but a cicatrix which appeared to represent what was at one time a clinically recognizable cavity he had not observed.

It is a striking fact, that from fifteen to sixteen per cent. of cases of healed tuberculosis die of cancer. This is noted in the tables of Dr. Coats, Dr. Fowler, and Heitler. In forty-two cases of Dr. Sydney Martin's cancer was the cause of death in twelve.

THE COLD SITZ-BATH AFTER LABOR.

THERE is nothing so absurd or fantastic that it cannot be taken up and seriously recommended as a therapeutic measure by some "experienced" physician. Thus we find that in the *Blätter f. klin. Hydrotherapie* Dr. G. Pingler puts in a powerful plea for the routine employment of the cold sitz-bath immediately after the expulsion of the fœtus. He first commenced this method of treatment in 1850, and after twenty-seven years' experience of it felt himself justified, in 1877, in strongly recommending it—which he did in a pamphlet then published (*Medical Press*). This pamphlet, rather naturally, did not meet with a warm reception; so now Dr. Pingler resumes his plea, and puts in statistics in its support. Two midwives in Königstein, he says, always used the cold sitz bath in this way. One of them has attended thirteen hundred confinements without a single death. Another has attended seven hundred without a single death, although turning and perforation had been called for.

Dr. Fresenius, of Soden, who has also tried it, speaks in most favorable terms of the sitz-bath. He says: "I have tried it in a practice extending over years, and make

use of it on account of its prompt and permanent action in cases of atony of the uterus. The considerable difference between the temperature of the body and that of the water acting reflexly, immediately sets up powerful uterine contractions that stop the hemorrhage. If the placenta is still in the uterus, a little massage of the fundus, and gentle contraction on the cord, suffice generally for the removal of it. If the contraction is permanent the patient is placed on a linen sheet over woollen blankets, wrapped in them, and rubbed dry, and after removal of the sheet, wrapped up warmly in bed."

Post-partum hemorrhages, or diseases of the genital passages, have never been observed after this procedure. Dr. Pingler requires, before making use of the bath, that the patient shall have a bed capable of insuring the necessary reaction, and that above all she shall not be lying on straw; further, that the midwife or other person shall, without much disturbance, see to the establishment of the reaction. For this purpose the hand is to be introduced carefully beneath the clothes, and the hips and thighs and legs well rubbed. If two persons are present, five to ten minutes are generally sufficient for the establishment of the reaction. If this is well established within from ten to thirty minutes, there need not be the least fear that the patient will suffer from the effects of the bath, especially if care be taken that the surface warmth of the patient is equable.

PSYCHIC AID IN NEURASTHENIA.

To lose the joy of living, from whatever cause, is to be poor indeed. To dread waking in the morning, and long to give the sun a blow that will put out its eye, denotes a state far removed from what may be called radiant vitality. Nights full of shadows and days filled with dull despair are not conducive to great deeds.

While neurasthenics may be, as Clifford Albutt calls them, the salt of the earth, they have periods of losing savor to such an extent as to induce in their own minds a doubt concerning this exalted destiny.

The physical symptoms of neurasthenia all receive attention. An effort is made to new-line the gastro-intestinal tract, to drive away the ache or emptiness of head, to electrify lax muscles, to piece out defective vision, and to lessen hyperæsthetic hearing. Everything under heaven is done for the neurasthenic except comfort his lonely soul, said soul having somehow become as solitary as an empty bark in mid-ocean. The sense of complete isolation due to exhaustion of nerve-centres, only to be understood by personal experience, is a keen, murderous condition that exists in proportion to individual sensitiveness. As the sensitive are never sensible, it is well to bear in mind their need, when overthrown, of help from others; help having for chief ingredients earnestness, sympathy, firmness, and good judgment. Sympathy need not necessarily be expressed in words, earnestness can be gentle, firmness may be cheerful and smiling, and good judgment quiet and unobtrusive. Unless someone places such qualities at the disposal of the neurasthenic and allows him to construct from them a moral support, the value of strychnine, bromides, baths, electricity, and even small doses of opium, is greatly diminished, and medical labor more or less in vain.

The mental attitude in neurasthenia is peculiar. The silent resentment that being misunderstood gives rise to, is long in fading away. And when it is gone, it is found that much affection, perhaps all that was really worth while, has somehow disappeared as well. Nothing remains but a scar that is sure to ache in mental bad weather. While the human comedy lasts, the neurasthenic will need at intervals this happy combination in another, of sympathy, earnestness, good judgment, and firmness.

It is useless to hope for psychic aid from the family, except in rare instances. They are alarmed or irritated, and always unwise. It is the physician alone who can come to the rescue. He is at once the doctor of the body and of the soul, and, convinced that nothing is perfectly sure but change, that everything wears to rags, or will melt, fade, disperse into thin air, he raises his patient's tottering faith and convinces him that all former delight in books, friends, music, events, enterprise, and the simple victories of every-day living, will one day return. To remove in part the sense of isolation resulting from lowered vitality is to renew self-respect. And equilibrium that is the outcome of self-respect, of consideration for others, of interest in events, and sympathy with the world's workings, grows into permanent self-reliance that means health.

ARISTOL.

This new iodine preparation has now been pretty well tested clinically, and from the numerous reports published, it appears to possess qualities which make it likely that it will not go the way of most new remedies, or at least not right away. Dermatol and euphoren, are similar and more recent iodine preparations which are claiming the attention of the clinical investigator. Whether aristol will be able to maintain its right to the distinction which its name implies, is a question which will be settled, as between these three preparations, in the near future.

Dr. Nadaud has reported to the French Academy of Medicine that he has employed hypodermic injections of an aristol solution in twenty or more cases of pulmonary tuberculosis. In seven instances the improvement was so great that a complete cure was hoped for; in five, improvement was rapid, but symptoms subsequently returned; three were not improved; two died; and six, still under observation, show decided improvement. There are no poisonous symptoms from the injections, it is claimed, and the beneficial results shown by decrease in the cough, cessation of night-sweats, etc., become apparent after the first week of treatment.

Thus aristol is seen not to differ from other new remedies, most of which, sooner or later, become cures for consumption.

LUPUS ERYTHEMATOSUS.

Some months ago we expressed the hope that tuberculin would prove capable of showing whether or no lupus erythematosus was of tuberculous nature. In this the lymph has failed, as it has in doing much else that was expected of it. In the recent congress for the study of tuberculosis, Hallopeau and Jeanselme reported on a case which tends to throw some light on the question. A man who

from puberty had coincidently a typical erythematous lupus and tuberculous disease of the glands, died from acute miliary tuberculosis.

The results of the bacteriological investigations and inoculations which were carried out were positive, so far as the miliary granulations and the cheesy glands were concerned, and entirely negative in the case of the lupus tissue; three guinea-pigs, inoculated with the latter, being found entirely free from disease one hundred and ninety days after.

This would appear to show with some degree of positiveness that the lupus was in no wise of tuberculous nature; but the observers do not draw this conclusion. They believe that the tuberculous contagium is capable of such modification and evolution in the system that it can take on a form non-transmissible to animals. If this be the case the negative results of inoculation have no weight, and we are forced to rely still upon clinical data for our conclusions. Clinically, the relationship between lupus erythematosus in its various forms and tuberculosis would seem to be pretty well established, and these investigators believe that at least one of its varieties is a product of tuberculous infection, and, if it is not inoculable, it is because the contagion has become much attenuated. This is a very convenient theory for those who believe in the identity of all forms of lupus so far as etiology goes, and it is indeed plausible; but it forces us to give up the idea that all products of tubercle are transmissible by inoculation.

VIVE LA MORT!

They do everything well, and in the most airy and charming manner, in Paris, as witness the death of a certain Dr. Bergeron there lately. He had had all he wanted of this earthly existence, life had become to him "as tedious as a twice-told tale," and, so, naturally, he thought he would throw it off. He might have shot himself, or cut his throat, or jumped off the Eiffel Tower, or shut himself up with a charcoal stove, but he didn't. Anybody with the most ordinary intellect, even a German, could kill himself in that way—it would be too common—the papers would hardly notice his death, and there would be no sensation at all. So he bided his time, serenely confident that the opportunity would come, as it always does to the one who can wait.

It came the other day. He was sitting one evening in a café with his mistress and a male friend, when the latter happened to complain of a sore throat. Here, at last, was the opportunity so patiently waited for, and he embraced it at once in the true Parisian style. "Just let me give you a little aconite, old fellow," said he, "there's nothing like that for knocking spots out of a sore throat." So he wrote a prescription for tincture of aconite and sent to a neighboring drug-store to have it filled. He put a couple of drops in a glass of water, telling his friend to sip it occasionally until he had taken it all, and then poured out about half an ounce in his own glass and drained it off, with an indulgent smile at the fears of his mistress, who seemed to think that it might be a little too much for a man in ordinary health.

He presently died, and the papers devoted several columns to a description of the way he did it.

A MOST REPREHENSIBLE PROCEDURE.

The medical West End of London is nearly petrified with horror and amazement at the audacity of a cheap doctor who has invaded these sacred precincts. It appears that this c. d. has organized himself into the "Medical and Surgical Consulting Rooms Association," and has had the nerve to distribute the cards of the said M. & S. C. R. A. all over the neighborhood, "not excepting," says one shocked journalist, "the houses of the aristocracy." This was really too bad—so bad that it actually angered a gentleman, who is described as a county magistrate and a life governor of one of the large London hospitals, to such a degree that he felt compelled to write to his medical attendant, and enclose one of the objectionable cards. He wrote: "The enclosed card was dropped into my letter-box this evening. I feel indignant at the receipt of such a document, calculated as it is to bring odium on your profession. Who, or what, are 'Medical and Surgical Associations?' Surely the working classes require no such aids? They have hospitals and charitable institutions open to them. Is it not a matter for the heads of your profession? Why should gentry have foisted upon them such 'cheap and nasty' documents?" Why, indeed? It was indeed outrageous that any more dispensaries should be opened, and the "heads of the profession" ought to have united to see that the bread was no longer taken from the mouths of their young and struggling confrères by the establishment of any more institutions for free medical treatment.

In looking at the report again, we find that it was not a free dispensary, but a place where sixpence was to be charged for each visit. We now understand better why so much indignation was aroused.

News of the Week.

The Fourth Italian Congress of Internal Medicine met at Rome, October 19th, under the presidency of Dr. Guido Baccelli. The correspondent of *The Lancet* says: "After the usual formalities in constituting the various secretaryships of the sections, Professor Rossoni, of Rome, in conjunction with Professor Forlanini, of Turin, presented their report on 'The Pathology and Cure of the Diseases of the Stomach.' This paper, which forms the chief attraction of the officially published 'Atti' of the Congress, would take too long to summarize here. Suffice it to say that after a review of previous workers in the same field, supplemented by observations of his own made in seventeen years of practice, Professor Rossoni proceeded to show how surgery could be of yet further use than she had hitherto been in the diagnosis of stomachic disease; and, basing his argument on the memorable results obtained by Count Loreta, of Bologna (the initiator of the 'Digital Divulsion of the Pyloric and Œsophageal Orifices'), he insisted on the necessity of the physician being able, when required, to operate in all such cases for himself. Professor Forlanini considered the pathology of the stomach from the chemical side, dwelling lucidly and at length on the determinate forms of gastropathy, due on the one hand to excess, on the other hand to deficiency, of hydrochloric acid. The discussion which followed elicited illustrations, chiefly confirmatory as regards

Professor Rossoni's paper, and controversial as regards Dr. Forlanini's, from Professors Maragliano (Genoa) and Bazzolo (Naples), as well as from Drs. Reale and Ferranini, of the Neapolitan school. The President summarized the whole in an effective review, adding considerations from his own experience in clinical and consulting practice.

"The next day's (20th) proceedings embraced a thesis by Professor Albertoni on the so-called 'Auto-intoxicants,' as seen in the coma of diabetes and in the effects of fatigue. His views were supported and extended by Professor Silva, who cited Professor Mosso's well-known doctrine as to the poisonous nature of the products of metabolism from prolonged muscular exertion; and the subject received further elucidation from Drs. Rovighi and Masini, the latter of whom related his experiments by partial and complete suppression of the function of the liver to illustrate the action of 'auto-intoxicants. The discussion, however, became chiefly memorable from Professor Maragliano's contribution to it. He referred to Queirolo's studies on the toxicity of the sweat, and on the destruction of what he called the 'hæmatiæ' in the serum of the blood in various maladies; and, *apropos* of diabetic coma, he cited the experiments made by himself with intravenous alkaline injections. Finally he reverted to his favorite suggestion of opportune and graduated venesection, in such cases, as a means of diminishing in the circulation the auto-intoxicant elements. The debate was prolonged into the afternoon, Professor Albertoni replying to his critics, and Professor Baccelli, as President, summing up its net outcome, and agreeing with Professor Maragliano, especially on the therapeutic side. The return of judicious venesection to the recognition too long withheld from it is, he thought, a hopeful sign in modern practice.

"The sittings of the 21st and 22d were less interesting in their tenor. At the former the most animated discussions were those occasioned by the report on icteritia (jaundice) by Professors Mya and Patella, and by Professor Maragliano's paper on 'Tuberculosis and the Lymph of Koch,' though this had to be curtailed for want of time. The proceedings of the 22d (the last day) were mainly of a business character. One of its details was the decision as to the subjects to be prescribed for discussion next year. They were three in number: 1, Rheumatism; 2, Cerebral Localizations; 3, Aero-therapeutics. After his closing address Dr. Baccelli intimated that the next year's Congress will be a preparation for the great International Congress of 1893, in which the Italian school will be expected to give some account of its contributions to the theory and practice of the healing art."

The Cuban Medical Congress, which was to have been held in Havana in January, 1892, has been postponed to the following autumn. It is proposed to hold it in October, 1892, coincidently with the quadricentennial celebration of the discovery of America.

Instituto Italiano.—The Italian Home at 179 Second Avenue, which was opened by the Italian residents of New York on May 1, 1890, as a hospital and dispensary for the care of their destitute countrymen, has become a very flourishing institution. During the first year 4,053 persons were assisted, 1,619 at the hospital, 899 at their homes, and 1,535 by their special agency at the Barge Office. With the Italian population in this city reaching a figure not far short of 80,000, and with the constantly increasing flow of immigrants through the city bound for points in the interior, such a hospital has been established none too soon, and its well-filled wards testify to its being appreciated. On the evening of November 10th the consulting physicians of the hospital were handsomely entertained at a banquet tendered by the officers, council, and medical staff, and presided over by the president, Mr. G. Starace. Speeches were made by Count Naselli, the Italian Vice-Consul, Signor Giacosa, the poet, and Dr. Attinelli, Physician-in Chief, and a number of others. The consulting staff consists of the following gentlemen: Charles W. Allen, Hermann M. Briggs, William T. Bull, A. G. Gerster, Virgil P. Gibney, John W. S. Gouley, Edward L. Keyes, Hermann Knapp, Alfred L. Loomis, Prince A. Morrow, Paul F. Mundé, Newton M. Shaffer, Lewis A. Stimson, Bernard Sachs, and Parker Syms.

University of Vermont.—Dr. J. R. Hayden has been appointed lecturer on Venereal Diseases at the University of Vermont.

The Thirty-sixth Anniversary of the Woman's Hospital of this City was held November 19. Speeches were made by Mr. Frederic Coudert, Dr. W. H. Draper, and Mr. John E. Parsons.

Virchow to His Friends.—The following is a translation of the circular note sent by Virchow in acknowledgment of the congratulatory letters and telegrams received by him on the occasion of his birthday:

"The close of the seventieth year of my life has been to my friends an occasion of greater joy than to myself. Age, even when its full burden is not felt, counsels resignation. My friends have nevertheless wished me on this, my birthday, to take a general survey of my past life, my struggles, my work, my successes. They have carried their point.

"From almost every part of the world have come to me the most hearty greetings; from many have come splendid gifts; from not a few, high, even the highest, honors. A whole series of festal days has passed before I have been able even to read all the letters and documents that have been received, or to obtain a realizing sense of the great volume of esteem and attachment which has been poured in upon me. Playmates of my early youth, schoolmates of the student days, fellow-workers from all sides and all lands, even the youngest scholars in the work-shops (Arbeitssaale), have come to me with their words of congratulation.

"It is impossible for me to thank, as I should like, each individual and each association, and to say to them all how happy and honored I feel that so much friendship, so much love, so much kindness, is still left to me, and to say also how earnestly I desire that none of this may be lost to me during the time which yet remains for me to live. May it, therefore, be allowed me to express my feelings in this general letter.

"I will add but one thing more. Let my friends rest assured that their kindly recognition will not spoil my heart, and that I cherish no greater hope than that it will be permitted me to devote all my powers yet for a time in the old way, to the service of science and of humanity.

"RUDOLF VIRCHOW.

"BERLIN, October 25, 1891."

Biliary Lithiasis.—In the interval between the attacks of biliary colic, Dr. Dujardin-Beaumetz prescribes a pill containing euonymin and soap, āā 2 grains, to be taken every night and morning. At the same time, the patient takes immediately after each meal 10 grains of salicylate of sodium. For the relief of the actual attack, from six to seven ounces of olive oil are given in one dose. This often calms the pain. Should it not do so, a hypodermic injection of $\frac{1}{4}$ grain of morphia should be given, combined with $\frac{1}{120}$ grain of atropine.

A Gigantic Infant.—For some reason the maternal pride after a successful accouchement is usually in direct proportion to the weight of the child. On this basis, the proudest mother in Christendom was a Parisian lady, who on January 9th gave birth to a child weighing 11,300 grammes, or about twenty-three pounds.

The Power to Reject Candidates.—An important suit involving the right to reject a candidate for admission to a medical society has terminated in the acquittal of the defendant, who was chairman of a committee on admissions. As previously stated in these columns, Dr. Robert B. Gould brought action against Dr. A. S. Hunter, Chairman of the Committee on Admissions of the Academy of Medicine, for slander as to plaintiff's professional standing, whereby his nomination to the Academy was barred. Although the utterance complained of would be ordinarily privileged as confidential, there was further charge of actual and express malice. The jury not only brought in a verdict for the defendant, as the plaintiff utterly failed to prove his point, but Judge Daly, in view of the groundlessness of the action and of the sacrifice of time and money in defending said action, granted an allowance of four hundred dollars to the defendant's counsel.

The Bicycle and Old Age.—The *Lancet*, in describing a military bicycling trip in which the party made one hundred miles in about ten hours, says in conclusion: The most interesting part of the narrative has still to be told. The veteran cyclist, Major Knox Holmes, at the near close of his eighty-third year, mounted on a tandem with Mr. Males, a young rider under eighteen years of age, accompanied the corps, and arrived at the termination of the expedition five minutes in advance of the rest. He was a little distressed on dismounting, from too hard riding the last few miles, but he soon threw off his fatigue and joined his companions at dinner with thorough zest. His condition is physiologically peculiar. In twelve weeks' new training he has, in the most striking manner, "developed muscle" in the external and the internal vasti, the rectus, and the muscles which form the calf of the leg. It has become so entirely a part of physiological doctrine that after threescore years and ten there is no new development of muscle, that if we had not seen with our own eyes, as we have, this actual development in one whose age exceeds by thirteen years the traditional span of human life, we should have doubted the possibility of its occurrence.

The Next International Medical Congress meets in Rome in 1893, and probably in the last fortnight in September. Professor Baccelli has been elected President, and Professor Maragliano, of Genoa, Secretary. The sections are twelve in number; and, as the results of the various ballots, the following gentlemen have been elected Presidents. Anatomy: Professor Antonelli. Physiology: Professors Albini and Albertoni. Pathology: Professors Bizzozero and Foà. Pharmacology: Professor Cervello. Clinical Medicine: Professors Baccelli, Maragliano, Murri, and Bozzolo. Surgery: Professor Bottini. Obstetrics: Professor Morisani. Psychiatry: Professors Morselli and Tamburini. Ophthalmology: Professors Devincenzi and Secondi. Dermo-Syphilopathy: Professors Campana and Barduzzi. Forensic Medicine: Professor Tamapia. Hygiene: Professors Pagliani, Celli, and Canalis.

The Physique of American Women.—Professor Bowditch has been inquiring into "the Physique of Women in Massachusetts." He has made accurate observations of height, weight, sitting height, and stretch of arms, of over 1,100 women. He found the average height of 1,107 women (without shoes), aged seventeen and upward, to be 158.76 centimetres. Dr. Sargent's average of 1,835 observations, the ages ranging from sixteen to twenty-six, is slightly higher; and Mr. Galton's 770 measurements of English women, from twenty-three to fifty-one years of age, give also a higher average. In the latter case the difference may be partly racial, but most of it must be due to the lower ages of some of the American subjects. The average weight of Dr. Bowditch's 1,105 cases, in ordinary in-door clothing, was 56.51 kilogrammes. A comparison with Galton's 276 observations (aged twenty-three to twenty six) shows that the range of weights is greater in the Americans, and also "seems to show that there is little difference between the shortest as well as between the lightest women of the two nationalities, but that the tallest English women surpass the tallest American women in height, while the heaviest American women exceed in weight the heaviest English women." As to sitting height, we need only record that "women appear relatively longer in the body and shorter in the legs than men." Finally, it appears that the popular notion that the arm stretch is equal to the height is much more nearly true for women than for men, Dr. Sargent's measurements giving 100.8 : 100 for the former and 102.8 : 100 for the latter.

Dr. Wm. H. Van Wyck, of this city, died on November 16th. Dr. Van Wyck graduated from Bellevue Medical College in 1865.

The Salts of Strontium, particularly the lactate, are said by Drs. Dujardin-Beaumetz and Paul to diminish albuminuria about one-half.

New Drugs.—In one single number a leading Vienna medical journal manages to rake together the following new remedies: Cocainum hydroiodicum, æthelenum bromatum, ammonium embelicum pulv., methylblue, apocodeinum hydrochloricum, aurum tribromatum, benzanilid, citrarinum puriss, chloral-ammonium, ephedrin pseudo-hydrochloricum, and a new spirit of bryony. Yet it failed to mention dermatol, europhylene, somnal, hypnal, phenocoll, and piperazadine. Vienna journalism is slow.

Bromides and Phthisis.—M. Féré has found that saturating a person or animal with bromides predisposes to tuberculosis.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, October 15, 1891.

ALFRED L. LOOMIS, M.D., PRESIDENT, IN THE CHAIR.

The Medical and Surgical Treatment of Epilepsy.—The Section on Neurology, under whose auspices the meeting was held, had presented this subject for discussion.

What Can We Expect from the Surgical Treatment of Epilepsy?—DR. B. SACHS read the first paper, with this title. The author said that in a study of the surgical treatment of epilepsy statistics at present were useless. Before attempting to answer the question whether epilepsy was curable by an operation, how to account for failures, whether apparent cures were only temporary or were really due to the operation, he first gave his views of the nature of epilepsy and then related the result in cases operated upon in which he had taken part as neurologist.

Three Classes of Epileptics.—With regard to the nature of epilepsy, he divided the cases into three classes —those due to trauma, those associated with the cerebral palsies of childhood, and idiopathic cases or those due to unknown cause. He saw relatively fewer cases of genuine (idiopathic) epilepsy than during former years. Many of the cases which he at one time would have regarded as idiopathic, he found on closer study to be due to some of the accidents or conditions occurring in early life which had as one result some form of paralysis, the paralysis may have disappeared while the epilepsy remained. In this class and that of traumatic epilepsy there was evidently an anatomical basis for the disease, although the exact nature of this might be a disputed point. It did not prove that so-called idiopathic cases were merely functional, without anatomical basis, because we had not yet found a lesion to account for them. Indeed, he believed there was an anatomical basis for genuine epilepsy, and it was not unlikely improved methods would yet enable us to demonstrate its origin in a sclerotic change in the cortex. Still, on account of the present degree of ignorance on this subject, such cases were, by common consent, regarded as not proper for an operation. The sclerotic process giving rise to the epileptic convulsions were secondary in cases of infantile paralysis being due often to meningeal hemorrhage. As soon as the centre from which the convulsion proceeded became destroyed, the convulsions ceased and paralysis ensued. But the sclerotic change, on the other hand, might not develop for years after the first injury, then giving rise to the epileptic spasm. It might be offered as an objection to this view of the origin of epilepsy that sclerosis had not been determined to exist in cases of traumatic origin, but he thought the fault here lay with the investigator. Where opportunity offered a more careful examination of the cortex should be made in such case.

With this view of the cause of epilepsy, it was clearly the duty of the physician to prevent, if possible, secondary sclerosis, and after it had developed to neutralize its effects. Not knowing the exact conditions under which the sclerosis developed, he could not be expected to meet all the indications for its prevention. Where sclerotic changes had already taken place, causing epilepsy, Victor Horsley, Keen, and others had attempted to excise the affected centres with, in some cases, a satisfactory result; in others, a disappointing one. Where the result was unfavorable, it would seem that other irritable centres had kept up the habit. To make matters worse, excision of a centre meant loss of function or paralysis in the corresponding muscles; so that while one might not by his excision cure the epilepsy, he was very apt to paralyze the parts. Yet in younger persons the function of the excised part ought to be assumed by other parts of the brain. Older persons would have to choose between paralysis or the epilepsy.

Prevent Secondary Sclerosis.—Any organic lesion existing, it should be removed as early as possible in order to prevent the development of secondary sclerosis and of epilepsy. If epilepsy had developed before an operation was performed, it might be assumed that sclerosis had already taken place. Traumatic cases called for immediate surgical interference. Where the skull had sustained a severe, or even a moderate, injury, the surgeon should make an exploration to learn whether there had been an injury to the bone. Even after epilepsy had developed there was still some hope from removing a sensitive scar, lifting depressed bone, or breaking up adhesions, for thereby the epilepsy might be inhibited. But relief had by no means always followed. His own experience covered four cases of traumatic epilepsy, Dr. Wyeth or Dr. Gerster operating; in two there was no improvement, in two, improvement.

Diagnostic Value of the Faradic Current.—In this connection Dr. Sachs mentioned the value of the faradic current applied to the cortex after trephining, in order to determine the exact centres for the group of muscles in which the convulsions started.

The author here passed to the consideration of cases of Jacksonian or focal epilepsy, which could be traced to a lesion occurring either in utero or early childhood, usually of the nature of a cerebral hemorrhage, thrombus, or embolus, leading to softening and secondary sclerotic change in the cortex. About seventy-five per cent. of children with cerebral paralyses developed epilepsy. He had had three cases of this kind operated upon, the cortex in only one being incised, in that instance incisions being made into it but no excision practised. There had been improvement in all, though they were only comparatively recent cases.

In conclusion, he said that the surgeon might be able to cure a few cases of epilepsy; he might be able to improve many; but he and the neurologist should in the future work together to prevent the development of epilepsy, if possible.

The Medical Treatment of Epilepsy.—DR. C. L. DANA said he would not speak of the treatment of epilepsy in the usual way, as this had been done very thoroughly by Dr. Seguin on a recent occasion: He would speak of the subject rather from the basis of diagnosis and prognosis. He regarded the larger proportion of cases of epilepsy as the expression of a degenerative disease. Idiopathic epilepsy was symptomatic, not of any special focal lesion or organic change, but expressive of a family or individual degenerative tendency. In the idiopathic cases would be found certain physical, physiological, and psychical marks by which one could recognize the intensity of this degenerative process. Therefore, before undertaking either medical or surgical treatment, one should make a most careful examination of the patient with a view to determining to what extent this stigmata of degeneration was present. In proportion to the intensity of this stigmata would treatment prove of little avail. Epileptics showed in varying degree the following signs of a degenerative tendency: Want of robustness; asymmetry of the cranium, present in seventy per cent. of the cases; the asymmetry was not usually very marked. In a certain proportion of cases there was shortening of the parietal arch; in another proportion, of the frontal arch, especially in petit mal; in women a high and protruding forehead was thought by Benedik to indicate, perhaps not epileptic tendency, but convulsive tendency. Further indications of the epileptic stigmata: The teeth badly set in the jaws; the palatal arch sharply arched in many cases; the face asymmetrical and uncultivated; in voluntary movements there was manifest unequal innervation; difference in the pupillary margins, astigmatism in many cases; deformity of the ears in many cases; low vital capacity; genital anomalies were common; pecu-

liarities in the fingers and hands. The asymmetry of the head might show itself either in the cranium or face, or both; if in the face it was usually of the upper portion.

Physiological Stigmata.—Among these were facial twitchings, stammering, nystagmus, anomalies of the sexual instinct, irresistible impulses, the muscular power below normal, peculiarities in standing and gait, relatively less secretion of phosphoric acid compared with urea, often anæsthesia and defects of special senses.

Psychical Stigmata.—These, he said, were too well known to require more than mere mention. There was the tendency to mental aberration, moral depreciation, waywardness, lack of will-power, sexual aberrations.

The question of continuance of medical treatment, or urging it, or of interfering surgically, would depend largely upon the intensity of these stigmata or evidences of degeneration. He believed there was only a minority of epileptics who should be kept upon bromides. He placed importance upon mental occupation, upon hygiene and diet, placing these above medical treatment. Baths and bromides constituted the main features of treatment in certain European institutions. If there was a sclerotic change, as seemed probable, it furnished a basis, he thought, for continuance of the old method of treatment by nitrate of silver, and for the present use of arsenic. He thought a small amount of nitrate of silver and arsenic useful adjuncts to other treatment. He also gave some phosphoric acid at intervals between bromide treatment. Hydrate of chloral was a useful adjunct of bromides, and lately he had tried chloralamid with considerable satisfaction. Antipyrine might prove useful, and had been advocated by Dr. Wood. Bromide of gold acted only in improving nutrition and increasing the bodily weight. Bromide of camphor was of well established value in petit mal. He had faith in the continued use of the galvanic current to the brain and neck, but time hardly permitted of its thorough application by the physician. There were many other drugs used more or less in epilepsy, but they were not of sufficient value to warrant taking up the time of the Society.

The Surgeon's View.—Dr. John A. Wyeth said that the older he grew the more he became convinced of the value of co-operation between the medical and the surgical mind, especially in the field of brain surgery. His remarks referred mainly to the methods of exposing the brain in epilepsy. There were three, all of which were about equally good. The one was by trephining—taking out successive buttons of bone; this method had become popular, it permitted replacing the pieces. In the second method the bone was cut away, the particles being cast away, although they could be replaced. The third method he had made use of considerably the past year and a half. It consisted in making a large horseshoe-shaped incision down to the bone and through it, not dissecting the scalp off the bone. Thus a trap-door was made which was turned down over the face, exposing the dura. Owing to the line of incision through the bone having been somewhat large, an eighth to a quarter of an inch, union had been cicatricial, not bony; but he believed that with improved instruments he would be enabled to leave a separation of only one-sixteenth of an inch, and in that event bony union could be expected. In some of his cases there had been elevation of the bone-flap. He believed there were more cases of epilepsy amenable to surgical treatment than physicians supposed. He thought that simple exposure of the brain could not be classed among serious operations.

Dangers of Operative Procedures.—Dr. W. R. Birdsall said that while he was pleased to hear Dr. Wyeth's opinion as to the safety of operating in epilepsy, he yet could not forget the fact that cases did die as a result of an operation in the hands of those believed to be competent surgeons. Every now and then some defect in the antiseptic method, or other condition, was accountable for a death. In a case of brain tumor, for instance, the risk might well be taken. In one case he had advised rather against an operation, it being one of epilepsy developing recently, or about the twentieth year, in a girl who had a slight depression of the skull when six months of age. The convulsions became almost immediately general, and there was less development of the body on the side opposite the cranial lesion, leading him to believe there was cortical change and arrest of development of the motor areas, and that therefore an operation would probably prove useless. He thought it was too early to speak much for or against the operation. Evidently it was best to resort to it early if it were indicated. Among drugs, none equalled bromides. He did not think electricity was very promising. It was well to remember Esquirol's observation that a change in treatment was likely to result for a time in some improvement. Various surgical measures had been proposed and practised, such as blood-letting, tying the carotid, castration, etc. It was hard to say how much the improvement (temporary) was due to the change in treatment and to mental shock. This remark applied also to trephining, which was apt to diminish the attacks only for a time.

Dr. M. Allen Starr thought the mental effect of any new procedure in these cases handicapped very much judgment of its value. There was no field in which the physician could more appropriately show some wholesome scepticism. As bearing on this aspect of the case he called attention to an article by Professor White, of Philadelphia, upon the therapeutic effects of operations *per se*. It showed that many cases of epilepsy might be improved for a year or more by trephining and then relapse. It appeared that the mental effect of any procedure in epileptics was almost as important as in hysteria.

He fully approved of Dr. Sachs's statement that cases should be selected, and that operations should be limited to cases of traumatic epilepsy, and those in which the brain lesion could be located, but the trouble was that ninety nine cases out of a hundred of epileptics were not traumatic. About ninety-nine cases out of a hundred were idiopathic, whose origin we knew nothing of.

He knew of two cases in which everything pointed to the propriety of an operation; the patients went into the operating-room well, except for an occasional fit, they were operated upon by one of the ablest surgeons in one of the best hospitals, and they died within five hours after the operation. The skull in these cases was found to be very thick.

Failures.—Dr. Starr had had the supervision of an operation in three traumatic cases the past year, in which there was apparently a direct connection between the blow upon the head and the muscular spasm; the surgeons admitted the propriety of an operation, yet at the end of nineteen months in one, fifteen in another, fourteen in the other, no apparent good had come from the operation whatever. In one or two there was evidence of old fracture beneath the incision, in one a depression outside, none of the inner table. The brain was exposed in all. The improvement had been in all only temporary. He confessed to not having yet had enough courage to advise a surgeon to excise a part of the cortex of the brain. If sclerotic tissue was present, and could not be seen, it probably did not equal that which would follow excision. Looking, therefore, at the future of the surgery of epilepsy, he thought there was not the brilliant prospect which there seemed to be two or three years ago. We would have to proceed with a great deal of care.

Regarding the medicinal treatment, he, of course, depended most upon bromides; but he called attention to an article by Haig, published in *Brain*, for June, on the influence of digestive processes upon the treatment of fits, in which the author claimed that, by observing the quantity of uric acid in the urine and blood, he could predict an attack of epilepsy in the epileptic, and on these studies he based the indications for diet, etc.

Hemiplegia and Epilepsy.—Dr. E. D. Fisher said he had been giving some attention to epilepsy in cases in which, during childhood, there had been hemiplegia.

Most of the cases which he had seen were in adults, and he was unable to find much difference between the convulsions in these cases and in idiopathic cases; the convulsion began no more frequently on the paretic side. Perhaps it had been different in childhood.

As was well known, post mortem examination sometimes showed atrophy of the convolutions in some cases, and he thought that if an operation had been performed early, say at the age of three or four years, this progressive atrophic change might have been checked, nutrition encouraged, and the embryonic cells enabled, by the increased nutrition and education, to take on more or less their normal function. This was important, not alone from the stand-point of overcoming the epilepsy, but also of improving the mental condition, which in these cases was well known to be deficient.

No Epileptic Stigmata.—Dr. Fisher thought the defects or stigmata named by Dr. Dana did not belong to epileptics except those of the idiotic class. He had reached this conclusion after observation of many cases.

Cure by Mental Shock.—Dr. Græme M. Hammond, Chairman of the Section, said of mental shock or mental impression as a cure of epilepsy or prevention of the attack, that in institutions nurses and attendants used this means for aborting a threatened attack; and that one young man was cured of severe epilepsy, lasting perhaps two years, brought on during participation in a walking-match, by the nervous shock experienced on the cylinder head of an elevated-train engine falling down by him. He also knew of two patients who had come to his clinic for treatment for epilepsy who claimed afterward to have been cured by hypnotism.

Dr. Sachs said, in closing the discussion, that he could not agree with Dr. Starr as to the proportion of idiopathic cases. He did not believe it was anything like even ninety per cent. The closer we analyzed our cases, the fewer would appear the idiopathic kind or those in which there was no evident organic change.

Regarding the danger of an operation, he thought surgeons ought to be able to promise that the operation at least would not endanger life in adults. In children it was different, as they did not tolerate cerebral operations well. He had had four cases of microcephalus operated upon in children and three had died. Those were the only deaths from cerebral operations which he had seen.

THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Fourth Annual Meeting, held at Richmond, Va., November 10, 11, and 12, 1891.

Lewis S. McMurtry, M.D., of Louisville, President.

First Day, Tuesday, November 10th.

Albuminuria: Its Relation to Surgical Operations.—Dr. J. W. Long, of Randleman, N. C., considered this subject under the following heads: 1. Does an operation ever induce albuminuria in healthy kidneys, *a*, by the anæsthetic employed; *b*, by the operation, *per se*? 2. Does albuminuria increase the dangers of anæsthesia, *a*, by the anæsthetic employed; *b*, by the operation itself? 3. Does the operation ever relieve albuminuria?

His conclusions were: 1. That neither ether nor chloroform injured the healthy kidneys. 2. When real disturbance from the use of the anæsthetic occurred, the kidneys being perfectly healthy, it was due rather to the prolonged narcosis and exposure of the patient, or to perhaps the combined influence of the operation and anæsthetic. 3. That a mild degree of albuminuria and nephritis did not contraindicate the use of chloroform or of ether. 4. Even in the presence of advanced renal changes an anæsthetic might be used, provided the family were advised of the additional risk. 5. Of the two anæsthetics, it was generally thought that ether was the safest, unless in obstetric operations. 6. Where albuminuria followed an operation, it might be due in part to the operation, in part to the anæsthetic. 7. The cause here was either reflex or sepsis. 8. That operations on the abdominal and genito-urinary organs and rectum were especially liable to produce renal complications. 9. That a healthy condition of the kidneys minimized, but did not obviate entirely, the dangers referred to. 10. Albuminuria was always indicative of renal lesion and should be regarded with anxiety, but it was not a positive contraindication to an operation. 11. When albuminuria was associated with other evidences of advanced renal changes, no operation should be undertaken without stating the dangers incident to the kidneys. 12. Albuminuria sometimes disappeared after an operation. 13. An operation should never be undertaken without thorough investigation of the kidneys.

Dr. W. W. Potter, of Buffalo, opened the discussion, and said that in healthy subjects he thought one could safely use chloroform. He had employed chloroform in at least three thousand cases, and in none had there been a death from this agent. He strongly impressed the necessity for an expert to administer the anæsthetic.

Dr. Baxter, of Chattanooga, said he had repeatedly seen albuminuria after shock from accidents, and he believed in operations this was frequently the cause, rather than the anæsthetic.

Dr. Davis, in experiments on dogs, had seen anæsthesia frequently produce suppression of urine. He expressed preference for chloroform, and, like other speakers, impressed the need of care in its administration by an experienced man.

Dr. Hunter McGuire, of Richmond, had most frequently used chloroform, yet he thought ether was sometimes indicated. Judgment was required in the selection of the anæsthetic. He did not place any reliance on statistics showing a much larger percentage of deaths from chloroform, in proportion to the number of patients anæsthetized, than from ether.

Dr. Westmoreland, of Atlanta, thought albumin in the urine, of great or little amount, of no special significance unless the microscope showed renal casts. Unless such microscopic evidence of renal disease was present, albuminuria did not contraindicate the use of an anæsthetic.

Dr. C. Rollock, of Cheraw, S. C., had used chloroform nearly altogether, without a death; he had used ether about two hundred times, with two deaths attributable to the anæsthetic. He preceded the administration of the anæsthetic by giving brandy well diluted with water, and thus kept up the heart's action.

Dr. Joseph Price, of Philadelphia, said it was sometimes difficult to say whether death were due to the operation or to the anæsthetic, yet he was convinced from observation of many cases operated upon in different hospitals that the anæsthetic was often at fault. It might be said that some patients died of chronic surgery—operation lasting, for instance, an hour, or an hour and a half. He did not doubt that some men, without disease of the kidneys or other organs, would succumb to ether if administered as long as it was in some operations, even though there were no surgical interference.

Dr. Albert Vander Veer, of Albany, had seen death from chloroform, never from ether. He thought there must be an organic change to account for it, although we we might not be able to see it. He did not hesitate to give chloroform to children. He preceded it by $\frac{1}{100}$ gr. of atropin, and $\frac{1}{6}$ gr. of morphine introduced hypodermatically.

Dr. H. P. C. Wilson, of Baltimore, had used chloroform for over forty years, and had not seen a death from it. The profession here seemed to look upon death from ether as all right, and death from chloroform as all wrong.

After some further discussion Dr. Long closed by saying that, while he would not deny there might be a func-

tional albuminuria, yet this could not long continue without an organic lesion taking place.

Systemic Infection from Gonorrhœa.—Dr. Bedford Brown, of Alexandria, Va., read the paper. Five cases were related in exposition of the text. Gonorrhœa was not an innocent disease, as was commonly supposed. It might extend over the entire genito-urinary system, or where there was continuity of the epithelial lining. But its spread was not limited to these channels; in some cases the entrance was through the lymphatics, and the limitation only the general system. Where the poison extended by continuity of the epithelial surface it was essentially pus-producing; where it was absorbed through the lymphatics, the local lesions were rarely pus-producing.

The first case was of the first variety, in a male, the gonorrhœal inflammation extending from the urethra to the prostate, to the bladder, the ureter, the pelvis, and body of one kidney, the kidney breaking down in abscess, escape of the pus and *débris* of the organ in the urine, final recovery of the patient with but one kidney. The extension of the disease along the ureter, in this and the next case, was accompanied by severe pain in the corresponding region.

The second case occurred in a female, who had gonorrhœal urethritis, cystitis, double ureteritis; then the urine became scanty, contained albumin and casts; the case ended in uræmic convulsions and death. He believed more cases of chronic nephritis were due to gonorrhœa than was commonly supposed.

In the third case the poison extended by the lymphatics; first the inguinal glands became enlarged, later those of the thigh, etc.; then a phlebitis and an orchitis. This patient finally recovered.

In the fourth case, three weeks following gonorrhœal urethritis, there developed gonorrhœal synovitis in both ankles and knees, then violent lymphadenitis in both inguinal regions, septic endocarditis, deep-seated pain in the eye without conjunctivitis. The gonorrhœal microbe here was carried, he thought, to the globe of the eye through the systemic circulation.

The fifth case was one of gonorrhœal septicæmia, with death in coma.

Dr. Robert T. Morris, of New York, in discussing this paper, said the conditions mentioned in the paper as occurring in gonorrhœa undoubtedly did occur more frequently than one would suppose from reading the books. Few authorities gave anything like a fair description of the cases. He did not suppose the gonococcus of Neiser caused the suppuration, but that it was followed by others which did have that effect. The speaker regarded the cases as those of gonorrhœal septicæmia. He spoke of the value of peroxide of hydrogen, introduced into the bladder, as a means of controlling the cystitis.

Dr. Joseph Price remarked on the great frequency of gonorrhœas, their treatment almost exclusively, not by physicians, but at drug-stores, nearly all of which were "clap-traps." A person with gonorrhœa or syphilis might better be locked up than a murderer, as he was likely to do infinitely more mischief to the community. Some years ago he had charge of a venereal clinic in Philadelphia, and the number of men who came there for treatment was surprisingly large. He could say safely, not fewer than one hundred women, wives of men whom he had previously known to suffer from gonorrhœa, had come to him and submitted to an operation for resulting pelvic disease. He had seen cases like those described by Dr. Brown, and he thought it might be well if the frightful results of venereal disease were described in print, and placed on the table where every young man could read.

Dr. Baxter thought the fact that so many of the wives suffered subsequently from pelvic trouble was evidence that the men had not been cured of the gonorrhœa before their marriage. He did not believe urethral stricture could be cured by internal medication.

Dr. J. D. S. Davis had had a case of gonorrhœa in a young man, followed by gonorrhœal rheumatism. During another attack he begged to have something done to prevent recurrence of the rheumatic complication. He decided to effect thorough cleansing of the urethra by repeated flushings, and for this purpose made puncture over the pubes with a large trocar, through which the injections were made. The patient escaped the rheumatic complication. He had pursued the same course in another case, at the solicitation of the patient, with a similar result.

Some Additional Cases of External Perineal Urethrotomy without a Guide.—Dr. Edwin Michael, of Baltimore, in this paper reported, in addition to those described in a former communication, eight more cases of external perineal urethrotomy without a guide, the cause of the obstruction being, in about equal proportion, gonorrhœal stricture and traumatic stricture. The results had been very satisfactory, due, he thought, not to any special method of operating, but to following aseptic principles—making free incision, establishing free drainage, and enforcing cleanliness. The course pursued was to cut down through the perineal structures until the urethra was reached, which was usually entered posterior to the stricture, sometimes anteriorly, and the stricture then overcome. In one of the traumatic cases in which the cicatricial tissue was marked and the urethra deflexed, he saved time and cutting by passing an instrument from the direction of the bladder after making a supra pubic opening.

The discussion brought out an expression of opinion on the propriety of supra-pubic puncture of the bladder. It was condemned generally by Drs. Hunter McGuire and Joseph Price.

Drs. Rollock, Long, Michael, and the two Davises, thought there were conditions justifying puncture, and the under operation, done with care, was almost without danger.

Reduction of Dislocations by Manipulation.—Dr. W. F. Westmoreland, of Atlanta, advocated, in a paper of this title, the reduction of dislocations, wherever possible, by manipulation instead of by extension and rotation, in order to avoid any injury which sometimes arose from the force required in carrying out the latter method. Of course in some joints reduction by manipulation was impossible.

In the first part of his remarks he mentioned two cases of dislocation of the hyoid bone which had come under his observation, in one of which there had been a previous dislocation, in the other dislocation five times previously. He believed the accident was of much more common occurrence than had been stated in the books. The true condition was apt to be overlooked, and the patient treated by gargles, etc., for some throat difficulty. Replacement usually took place spontaneously, when the patient gagged and threw the head forward. He had been able to find only six recorded cases.

The speaker next took up shoulder dislocation, more particularly the subcoracoid variety, which he regarded as most frequent. He felt sure that all the cases seen by him in the past, and then supposed to be subglenoid, were really subcoracoid. The method of reduction which he had practised in a very considerable number of cases, with great satisfaction, was called Kocher's. It was unaccompanied by the use of force, and consequently did not cause pain and injury to the structures of the joint. Where there was a rent in the lower portion of the capsule somewhat different manipulation would be required. The forearm bent on the arm, the elbow held against the body, elevate it slightly, make rotation outward by simple circumduction. The same manipulation would be successful where the bone was caught between the muscles. He was confident one could reduce any forward dislocation of the humerus by Kocher's method. But if the coracoid ligament were ruptured, he did not think manipulation would succeed as a rule. The reduction by this

method of manipulation depended upon putting the coracoid ligament upon the stretch and using it as a lever. When it was torn the procedure would fail.

Complications in Pelvic Surgery, and how to Deal with Them.—Dr. Joseph Price, of Philadelphia, presented in illustration of the text several specimens and diagrams of recent cases. He distinguished between abdominal and pelvic surgery, and showed that the general surgeon was likely to get into a tangle on dealing with extensive adhesions, etc. It appeared in the course of the paper that the author laid stress on cleavage, as opposed to tearing and cutting, where there were extensive adhesions; on the use of hot water where there was much hemorrhage and manipulation, the effect of hot water being not only to control bleeding, but also to overcome shock; the use of the drainage-tube in certain cases; on maintaining the integrity of the bowel, the use of vaginal drainage in certain conditions, etc.

Dr. Opie, of Baltimore, thought there should be no use for the drainage-tube when the operation had been done aseptically.

Dr. H. O. Marcy, of Boston, thought the drainage-tube should be used only for a definite purpose, namely, where there was a suspicion of infection, and where fluids required to be removed.

Dr. Kollock, of South Carolina, had seen cases of pus-tubes in which there was no cellulitis, but had hardly dared assert the fact in face of the contrary view being so generally entertained until now.

Dr. Price related a similar observation. He had never been able to find cellulitis in any case of pyosalpinx.

Dr. Albert Vander Veer, of Albany, thought the drainage-tube when used was also of great value in giving early alarm in case of hemorrhage. Like the author, he spoke against the use of the aspirating needle because of the attendant dangers. He regarded it of importance to replace the pelvic organs at the conclusion of the operation in their normal position. Rearrange the gut, mesentery, and especially the omentum, and there would be less liability to dangerous adhesions.

In closing the discussion, Dr. Price said he thought there was not more than one case in about five hundred where the adhesions could not be overcome and the operation completed. The greater one's experience, and therefore skill, the fewer of his laparotomies would prove simply exploratory.

Laparotomies Performed during the Past Year.—Dr. Thomas Opie, of Boston, in this paper tabulated thirty-two laparotomies which he had performed at the Baltimore City Hospital the past year. Much more could be learned from a report of all cases than of a series of cases, as in the latter event they were likely to be selected ones. His 32 cases were divided as followed: ovarian tumor in 6, chronic ovaritis in 7; fibroid tumors in 4; hydrosalpinx in 5; retroflexion, dysmenorrhœa, etc., in 3; exploratory incision in 3; extra-uterine pregnancy in 1; cyst of the broad ligament in 1; cystic degeneration of the ovary in 1. The deaths were: in oöphorectomy for pyosalpinx, 1; shock in ovariotomy, 1; abdominal hysterectomy for fibroid tumor, 1; colloid cyst, 1; in all, 4. The details of conditions leading up to death in these cases were given. Stitch abscess occurred nine times. He believed the time had about arrived when the drainage tube should be dispensed with. He also thought there was too much flushing of the abdomen. Did it not damage the epithelium of the peritoneum and disable it for combating germs, etc.? He thought sponging out of fluid safer. Nature sealed the opening aseptically in less than twenty-four hours, and the surgeon should aid this result.

Drs. Johnson, W. E. B. Davis, Price, and others, defended the use of the drainage-tube under certain conditions. Dr. Davis said the trouble which had followed its use was due largely to leaving it in too long. It could remain quite safely twelve to fourteen hours. They disapproved of the use of sponging in the place of flushing.

Dr. H. P. C. Wilson had been unable to trace pyosalpinx to gonorrhœa, although he had treated a number of women for gonorrhœa contracted from the husband. He had removed the uterine appendages in four or five cases of mania, with the result of curing the mental trouble.

Dr. Price was glad to hear the experience of Dr. Wilson, since it harmonized with his own. He had repeatedly seen girls and women who had been laboring under mental depression, taking no interest in any of the affairs of life, having convulsions during the menstrual period, become happy and healthy after a pelvic operation.

Obscure Origin of Ovarian Cystoma.—Dr. C. Kollock, of South Carolina, the author, first reviewed the theories which had been advanced in explanation of the development of ovarian cystoma, and said that although some of them were more or less plausible, yet the true cause had not yet been found.

Congestion recurring at the menstrual period, scrofulous, tubercular, or other diathesis, marriage, sterility, and other theories in explanation of the cystic degeneration, could not apply in three cases which had come under his observation. The three cases were in unmarried women, one in the twenties, one seventeen, the other only twelve. The influence of abnormal menstruation, of inherited tendency, of disease of any other nature, of diathesis, of desire to marry, of restrained sexual appetite, etc., could safely be excluded as an etiological factor.

(To be continued.)

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

FIFTY CASES OF INGUINAL COLOTOMY—HOW TO DIAGNOSE INNOCENT FROM MALIGNANT STRICTURES—LESIONS OF SPINAL NERVE-ROOTS FROM SECONDARY CARCINOMATOUS GROWTHS—URIC ACID AS A CAUSE OF HIGH ARTERIAL TENSION—AN EXPERIMENTAL STUDY OF DIGESTION AFTER GASTROSTOMY—LAMINECTOMY FOR PARAPLEGIA—THE COMING ELECTION TO THE MEDICAL COUNCIL.

London, October 31, 1891.

At the Medical Society of London, on Monday evening last, Mr. Harrison Cripps gave an account of two cases of stricture of the colon which had been diagnosed by laparotomy and treated by colotomy. Mr. Herbert Allingham then read notes of his first fifty cases of left inguinal colotomy. Mr. Allingham remarked that for practical purposes the mesentery might be described as long, medium, or short; this division was of importance in reference to the possibility of making a spur, and the cause of after-prolapse of the bowel. Only two of the cases died from the operation, and in both instances from accidental causes. In 36 of the cases the ordinary inguinal operation was performed; in 14, the supplementary operation. In 17 of the 50 the mesentery was long, in 25 of medium length, and in 8 short. In 9 there was no spur. In 17 prolapse took place—from the upper end only in 5 cases, from the lower end only in 6 cases, and from both ends in 6 cases. The gut was twisted when forced up, so that the bowels acted from the lower of the two openings in 7 out of the 50 cases.

Mr. Jessett thought it was a waste of time to stitch the peritoneum to the skin, and that it weakened the abdominal walls and rendered prolapse more probable.

Mr. Goodsall said inguinal colotomy was far preferable to the lumbar operation, if only because the patient was independent of outside help in relieving the bowel. He observed that in men upward of eighty per cent. of strictures were malignant, while in women not more than twenty per cent. were cancerous. The behavior of the bowels was a guide in diagnosing malignant from inno-

cent strictures. In the latter the desire to empty the bowel was felt at certain times only, whereas in malignant strictures it occurred at any time. Non-malignant strictures he had found almost invariably secondary to puerperal mischief.

Mr. Bruce Clarke insisted on the importance of trying to get the spur as low as possible.

At the Medical and Chirurgical Society's meeting, on Tuesday last, the first communication read was one by Mr. Raymond Johnson and Dr. George Murray. The authors described the case of a patient who had died from multiple secondary carcinomatous growths consequent upon a primary growth in the breast. The symptom especially considered was the paralysis of certain muscles of the upper limb; after death these were found to be pale and atrophied. The lesion of the anterior nerve-roots, caused by the secondary growth in the dura mater, was of almost experimental accuracy; it extended from the sixth cervical root above to the third dorsal root below. The authors compared the muscles found atrophied in this case and those found to be supplied by the same nerve roots in the monkey by the researches of Ferrier and Yeo. They confirmed the observation made by Dr. Beevor concerning the double origin of the nerve-supply of the pectoralis major; the sternal and costal fibres of this muscle were atrophied, while the clavicular fibres remained unaffected, and were thus shown to be supplied by nerve-fibres derived above the sixth cervical root.

Dr. Haig then read a paper on "Uric Acid as a Cause of High Arterial Tension and its Consequences." This was a continuation of the author's former paper on the subject. He maintained that, other things being equal, arterial tension varied directly with the amount of uric acid in the blood; and that opium, mercury, and other drugs probably affected arterial tension by their action on uric acid. He had reached this conclusion from an experimental investigation of the uric-acid headache (migraine). He believed that opium cleared the blood of uric acid by storing it in the tissues—not by eliminating it; when the stored uric acid was again in solution in the blood the uric acid rebound came, with all the signs of excess of uric acid in the circulation. The effects of opium on the brain and skin were due to its influence on uric acid. Uric acid, by contracting the arterioles and capillaries, raised the tension, and slowed the heart in accordance with Marey's law of pulse-rate. It might also produce irregularity or intermission of the pulse, and secondary effects, such as syncope, angina, or cerebral hemorrhage. These secondary effects were most likely to be met with at the hours when the amount of uric acid in the blood was naturally greatest, and many functional disturbances due to uric acid were worst at these hours. The author mentioned the parallel action of digitalis and erythrophleum, and referred to Professor Reigel's paper on bradycardia. He said a knowledge of the effects of uric acid on the rate of the pulse should give an explanation of most of the causes of bradycardia in the most simple manner. In concluding his paper he maintained that the vascular effects of uric acid might influence every tissue and structure of the body.

Dr. Haig's views did not apparently find much support among his hearers. Dr. Herringham said he had endeavored to corroborate Dr. Haig's researches, but without success. He thought Haycraft's process was unreliable, and Dr. Haig had used this method to estimate the uric acid. Dr. Hunter acknowledged the laboriousness of Dr. Haig's researches, but thought he was trying to establish too important a *rôle* for uric acid in disease.

At the last meeting of the Clinical Society Dr. Handford gave an interesting account of an experimental investigation of the movements and of the contents of the stomach which had been made on a patient on whom gastrostomy had been performed. The operation was performed at the end of May, 1890, for stricture of the œsophagus, which was found at the necropsy to be carcinomatous in nature. The patient survived the operation one hundred and ninety three days. He used to take six meals in the twenty-four hours, consisting of eight and a half pints of fluid (milk and water), two ounces of bread-crumb, four ounces of pounded, uncooked meat, five ounces of cream, and three eggs, with an ounce of brandy. No evidence could be obtained of peristaltic movements of the stomach walls, which appeared to have been quite checked by the adhesions of the stomach to the abdominal parietes. Digestion took place efficiently in the complete absence of peristaltic movements of the stomach itself, but both the diaphragm and the heart seemed to have influence in preventing stagnation of the fluid contents of the stomach. The history of the case showed that a considerable gain in weight was not incompatible with the presence of advanced malignant disease, and that a diet largely fluid could be maintained for months without producing indigestion. The rapid introduction of large quantities of food into the stomach, the absence of pleasure in eating and of the perception of flavors were not incompatible with very perfect digestion and active nutrition. Given a suitable diet, fine division of it appeared to be the most important factor in determining rapid and easy digestion. Hydrochloric acid was absent till two hours or more after a meal, but lactic acid was found in the stomach in abundance as early as half an hour after taking a full meal. Lactic acid appeared to be more abundantly and quickly produced from bread and from beef-tea; less quickly from milk. The highest total acidity was generally after the meat meal. The total acidity steadily increased from half an hour after a meal, when it averaged 0.085 up to three hours, when it reached 0.63, and was then chiefly due to hydrochloric acid. But at this period the absolute quantity of fluid was generally small—an important point to remember in estimating the quantity of alkali required for neutralization. The sugar all disappeared within two hours after food was taken. It was formed from beef-tea and bread, when, so far as could be learned, no ptyalin or diastase was present. It was, therefore, a question whether starch might not be changed into dextrine and grape-sugar under the influence of micro-organisms and the body temperature.

A short discussion ensued. Mr. Symonds and the President (Sir Dyce Duckworth) thought treatment by tubage should be employed before performing gastrostomy. Mr. Symonds remarked that many patients, if put in bed and treated with opium and nutrient enemata, had the power to swallow restored to some extent. Dr. L. E. Shaw mentioned a case in Guy's Hospital in which, after the first stage of gastrostomy had been performed, the patient became able to swallow, and did so until death, weeks afterward.

Mr. W. Arbuthnot Lane then gave an account of eleven cases in which he performed laminectomy for compression paraplegia resulting from spinal caries. He thought operative interference in such cases involved very slight risk. It was followed by very little pain, it relieved the patient of the compression symptoms, and it enabled one to treat the diseased vertebræ directly—not only by spooning, irrigation, and the thorough removal of all carious material and diseased bone, but also by the repeated local application of iodoform, from which Mr. Lane had obtained excellent results.

The re-election of Direct Representatives to the General Medical Council is now drawing near. The three members for England and Wales are not, it appears, to be returned unopposed, as two fresh candidates — Dr. Alderson and Mr. George Brown—offer themselves, who claim support on the ground of their being general practitioners and thus more in touch with the general body of the profession.

A Death from Cocaine.—A young physician in Bournemouth, England, died recently from the effects of cocaine which he had applied too freely to an aching tooth.

MATERNAL IMPRESSIONS.

To the Editor of the Medical Record.

Sir: The series of anecdotes which have been running through the columns of the Medical Record lately have a very familiar sound. I am continually reminded of the more or less harrowing recitals with which old ladies, gathered about the kitchen-fire, are apt to beguile the tedium of the first stage of labor. Unlike your correspondent, "Physician," I am a confirmed sceptic on the subject of maternal impressions. It seems to me the height of absurdity to attribute to this cause all the defects and deformities of children. It is reasonably held that convolutions of the cord may so ligate a limb as to cause its amputation in utero. I know a young lady born with only one hand, but this could not be traced to any maternal impression. It seems a remnant of past superstitions to be continually magnifying mere coincidences into cases. If it were true, as "Physician" concludes, that a mother could make her child an idiot through anger at her pregnancy, this land would be filled with idiots. I could give case after case to prove this point, but let a single one suffice. Mrs. M—— found herself in the unwelcome condition of pregnancy, and among other fruitless expedients for relief took an enormous dose of strong decoction of tansy, and was taken up in convulsions. Nevertheless, at full term, she was delivered of a healthy, well-formed, and intelligent girl.

A single case, also, bearing on deformities.

Mrs. A——, while carrying her child, lost three fingers and part of a thumb by the accidental discharge of a revolver. She was greatly shocked, and feeling sure her unborn infant would be similarly disfigured, hoped for its death. When the child was born she refused to look at it, so strong was her faith in the maternal-impression theory. But I was able to turn the laugh on the wise women assembled, by showing them a fat, ten-pound girl, without a mark on its fair flesh.

Dr. Rachel Gleason relates the case of a lady medical student, who, in the early months of her pregnancy, was punctually at her place in the dissecting room, most efficient at clinics, yet bore a beautiful child free from any blemish. A richer field of horrors for maternal impressions could scarcely be imagined.

Will "Physician" please tell us the cause of the double-headed boy reported in the Record of November 7th? Can he account on the theory of maternal impressions for double-headed and six legged calves in the spring? Perhaps spots on apples and nubbins on potatoes will yet be satisfactorily explained in the same light. Seriously, while the vast majority of cases clearly point the other way, does common-sense, let alone science, sustain a nineteenth-century physician in pinning his faith to maternal impressions because of a few isolated, albeit striking, coincidences.

E. S. Rich, M.D.

Kennedy, N. Y.

METHYL-BLUE IN ACUTE GONORRHŒA.

To the Editor of the Medical Record.

Sir: At the meeting of German Physicians of New York, of February 27, 1891, I demonstrated (with specimens) that the urine of persons taking methyl-blue, in doses of 0.2 (3⅓ grains), two or three times daily, remain undecomposed, even if kept in an uncovered vessel, at ordinary temperature, for several weeks. Inoculations made with some of this dyed urine on bouillon-gelatine did not develop any colonies. This fact seemed to justify the trial of methyl-blue in all the disorders of the genito-urinary system which are caused by micro-organisms. At the March meeting of the above-named Society I showed that the urine of one patient with pyelitis, and of two other patients with acute gonorrhœa, remained aseptic after having taken methyl-blue internally, and that inoculations made with it on bouillon-gelatine and agar-agar did not develop any colonies of micro-organisms. This was the reason which led me to apply methyl blue in acute gonorrhœa.

Twelve patients of the German Dispensary, with acute gonorrhœa, were treated in no other way than by administering internally 0.2 methyl blue, in a gelatine capsule, once a day, after supper; nearly all of them lost the burning pains in the penis they had had the next day. Of these twelve patients nine have been completely cured within eight to thirty-five days (one each in eight, twelve, thirteen, and sixteen days; the other five in from three to five weeks). Among the remaining three, one derived no benefit whatever from the methyl-blue; in the two others the pain became lessened but the flow did not seem to become altered by this mode of treatment, and here use was made of the usual mode of treatment by injections.

I would like here to state that although I have brought up the subject of methyl-blue before the above-named Society, and mentioned the apparent rationality of its use in diseases of the genito-urinary organs, Dr. I. Adler was the first to apply methyl-blue in gonorrhœa, by injecting solutions of this substance, whereas I have applied it internally only.

My letter, Mr. Editor, would grow too long were I to mention all the trials I have made with methyl-blue; still, I should like to call attention to a few interesting facts with reference to the use of it.

A patient with œdema and anasarca, dependent upon a chronic nephritis, lost his œdema in eight days, having taken 3⅓ grains methyl-blue *pro die*; he returned after six months with the same symptoms, having been free from them meanwhile; he again resumed the treatment with methyl-blue, and the œdema disappeared in eight days.

In one case of herpes zoster, treated with methyl-blue, 0.2 internally once a day, and no other medication whatever, the pain disappeared in two days, and the herpes-vesicles dried up on the seventh day. (This patient was presented as cured at the last meeting of the German Medical Society, November 2, 1891.)

One case with itching all over the body (pruritis chronicus senilis), of five years' standing, which had been treated by me about four years without much success, was cured by taking methyl-blue, 0.2 internally, once a day for two months. It was interesting to note that a chronic ulcer of the leg in this patient had meanwhile healed, without any other treatment than it had before.

The above statements show that methyl-blue may perhaps also gain a place in the treatment of diseases of the skin, and is certainly worthy of a trial by dermatologists. I should like to caution my colleagues that in prescribing methyl-blue they make certain that pyoktanin is not dispensed instead, as has been done quite often by druggists; this latter substance being badly borne by the stomach.

I have no doubt—and am here in accord with those gentlemen of this city who have tried and still apply the anilin dyes in the treatment of surgical diseases, and especially in the treatment of inoperable malignant growths (Dr. Willy Meyer and others)—that the anilin dyes will certainly soon play an important part in the various branches of medicine.

Very respectfully,

Max Einhorn, M.D.

120 East Sixty-fourth Street.

Leucorrhœa, is, according to Dr. Louis Bauer, often due solely to constipation, hence clearance of the bowels of their fecal contents is in many cases the chief and most effective treatment of that troublesome disorder.

Dr. Martin Steinthal, of Berlin, the Nestor of the medical profession in that city, celebrated the seventieth anniversary of his admission to practice on November 5th. He was ninety-four years of age on October 22d.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department. United States Army, from November 8, 1891, to November 14, 1891.

HALL, WILLIAM R., Captain and Assistant Surgeon. Relieved from duty at Fort Schuyler, N. Y., and assigned to duty at Angel Island, Cal.

CLENDENIN, PAUL, Assistant Surgeon. To be assistant surgeon, with rank of captain, November 5, 1891, after five years' service, in accordance with the Act of June 23, 1874.

FISHER, HENRY C., First Lieutenant and Assistant Surgeon. Ordered to Fort Riley, Kan., for duty.

SHAW, HENRY A., First Lieutenant and Assistant Surgeon. Ordered to Fort McKinney, Wyo., for duty.

DUNLOP, SAMUEL R., First Lieutenant and Assistant Surgeon. Ordered to Fort Sill, Oklahoma Ter., for duty.

KIEFFER, CHARLES F., First Lieutenant and Assistant Surgeon. Assigned to duty at Fort Sheridan, Ill.

MERIWETHER, FRANK T., First Lieutenant and Assistant Surgeon. Assigned to duty at Fort Adams, R. I.

TEN EYCK, BENJAMIN L., Assistant Surgeon. Granted leave of absence for one month, to take effect about the 15th inst.

MEAVUS, EDGAR A., Captain and Assistant Surgeon. Relieved from duty at Fort Snelling, Minn., and assigned to duty at Fort Mackinac, Mich.

WILLCOX, CHARLES, First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Bowie, Ariz. Ter., and assigned to duty at Fort Gaston, Cal.

Official List of Changes in the Medical Corps of the United States Navy for the week ending November 14, 1891.

GATEWOOD, J. D., Passed Assistant Surgeon. Detached from the Despatch, and granted two months' leave of absence.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 14, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	41	17
Scarlet fever	112	16
Cerebro-spinal meningitis	2	4
Measles	37	4
Diphtheria	107	37
Small-pox	0	0
Varicella	2	0
Pertussis	7	6
Erysipelas	0	0
Mumps	0	0
Rötheln	0	0

Foreign Diplomas are Not Sufficient.—A German physician was arrested the other day in New York for illegally practising medicine without a license. The offender presented diplomas from the universities of Geneva, Zurich, Berlin, and Prague. These were not sufficient, however, to meet the requirements of our law, which says that a practitioner must have a license from the proper authorities in this State.—MR. HENRY A. RILEY, in *Medical Progress.*

Mortality in England and France.—Two hundred years ago the mortality in England was 80 in the 1,000, and fifty years ago 25 per 1,000, while in 1889 it had fallen to 17.85. This result is the more remarkable since the birth-rate is so large, and it is well known that a large birth rate increases the annual death coefficient. In France the mortuary rate, which, at the beginning of the century, was 28, is to-day 22.29, but the coefficient of births has fallen from 30 to 25 per 1,000. If the births in France were in the same proportion as those in England, the increased death-rate over this country would be still greater.—*Journal de Médecine de Paris.*

Tried by a Jury of his Peers.—A practitioner in Innsbruck, in his endeavors to extract a bean from the external auditory canal of a young man, ruptured the drum-membrane, in consequence of which his patient acquired suppurative middle-ear disease and died. The Medical Faculty of Innsbruck thereupon summoned the unfortunate medical man to appear before them, censured him for his want of skill, and deprived him of the right to practise until he should have passed an examination in surgery showing that he was competent.

Treatment of Malarial Hæmaturia.—The following is the treatment for malarial hæmaturia, or swamp-fever advised by Dr. L. H. Davis, in the *Memphis Medical Monthly* for October, 1891: "Give the patient two grain doses of fresh English calomel every three hours until active tarry actions appear, then keep the bowels moving with some saline until the color clears up. The calomel should be given dry on the tongue; don't fear ptyalism; lay aside all prejudice and save your patient. This is not theory. If you think so give it a trial. Give acetanilid in ten-grain doses every three hours till the skin is moist, then quinine in ten-grain doses every four hours for a few doses, lessening the quantity as soon as cinchonism develops. Do not believe that quinine has an injurious effect on the kidneys, as some would tell you, for there is nothing in this whatever. Give bits of ice to allay thirst. Do not give veratrum viride."

The Silly Cyclist.—There are fools among the wheelmen as well as in other bodies of men, as witnesseth the recently concluded six days' bicycle race at the Madison Square Garden in this city. Fortunately for the contestants in that race, or rather trial of endurance, none of them met the fate of the Englishman who died recently after a twenty-five mile race at Doncaster. When nearly at the end of the contest he was observed to be riding in a peculiar way while his wheel was wobbling from one side of the track to the other. He was taken off, but immediately lost consciousness and died the following day. He was said to have been in apparently perfect health when he began the race.

Medical Missions.—China is perhaps the most inviting field for medical missions in all the world, says the Rev. Mr. Blodget, of Pekin. In Japan the native physicians, and in India the army surgeons, are met with as rivals, but in China the medical missionary has it all his own way and can treat without restraint both soul and body of Ah Sin.

Where Travelling is Risky.—A German physician recently left Jena for a vacation tour in Corsica, and promised to entertain his friends with letters from time to time containing realistic descriptions of what he might see and hear in that lovely isle. The first news from him was that he had been arrested as a spy and was getting free board in the jail at Bastia. The exertions of the consul finally secured his release, and he immediately shook the dust of the inhospitable land from his Jaeger shoes, and now the friends in Jena have to study Baedeker for information concerning Corsica. Professor Haeckel had a somewhat similar experience during a scientific tour that he made in Algiers some time ago, being repeatedly arrested as a suspected spy and being put to no end of trouble to prove his innocence.

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Original Articles.

REPORT OF CASES OF CHOLECYSTOTOMY WITH SPECIAL REFERENCE TO THE TREATMENT OF CALCULI LODGING IN THE COMMON DUCT.

BY A. VANDER VEER, M.D.,

PROFESSOR OF DIDACTIC, ABDOMINAL, AND CLINICAL SURGERY, ALBANY MEDICAL COLLEGE, ETC.

MR. PRESIDENT AND FELLOWS: In presenting this paper as a contribution to the surgery of the gall-ducts, I shall refer somewhat to the surgery of the gall-bladder, yet my chief desire is to get from you a discussion and your views regarding a line of treatment in such cases, as where we find a contracted and perhaps almost obliterated gall-bladder, or where the common, cystic, or hepatic ducts are entirely closed by lodgement of a calculus, or stenosis from other causes. I take it that the most of abdominal surgeons are ready, and feel that they are doing full justice, in treating a case like the following according to the methods now employed.

CASE I.—Mrs. S. St. O——, aged forty, married, native of United States, and by occupation a housewife. Family history good; patient had had all diseases of childhood; first menstruated at fourteen, always regular; married twenty-two years, mother of eleven children, youngest aged twenty-two months. First began to feel ill about two years ago. July 12, 1890, patient had a severe pain over region of gall-bladder, and simultaneously a bunch appeared in right side. Pain lasted about four weeks, when she began to improve, but has had repeated attacks at intervals since. Has had sensation of weight in right side since first attack. Appetite poor; continuously jaundiced since about four months ago, which would fade and recur with each attack of colic. In March, 1891, began itching, which was limited to chest. This disappeared for a week, then reappeared on arms, lasting again for a week, and reappeared again in May last, this time general over every part of body, and did not abate.

Physical Examination.—Fluctuating tumor in the region of the gall-bladder, tender on pressure; pregnancy advanced three months; skin intensely yellow. In view of her constant emaciation, the itching yielding to no treatment, notwithstanding her pregnancy, I advised an immediate operation. She was accordingly admitted to the Albany Hospital June 18, 1891, was placed in a private room, and given the usual treatment for abdominal section. Operation, June 20th. Vertical incision over gall-bladder, which was stitched to abdominal parietes and opened. Gall-stones, sixty-four in number, removed, varying in size from a hickory-nut to a small pea, and which I here exhibit. Silver probe was passed through the common duct into the duodenum. Before stitching the gall-bladder in the incision I examined duct carefully and could not detect any calculus there. Drainage-tube (glass) introduced and packed with iodoform gauze. Abdominal wound closed by silkworm sutures. Bowels moved the third day, normal in color, while before they had been of a whitish appearance. Would say here that a few days after the operation, and when the stomach seemed to call for it, she was given the best of nourishment. Her weakness, which was quite marked, demanded it, and her good digestion greatly aided her recovery. Recovery uneventful and uninterrupted. Discharged July 11, 1891, with sinus nearly closed, feeling stronger and looking better than she had for many months. July 25, 1891, she called at my office, saying the sinus had closed a few days after leaving the hospital, that it had remained so for a week, during which time she did not feel so well; that it then began to discharge a whitish secretion, and that she had felt better since. In every other respect she was very much better.

August 14th, she came to my office complaining that the wound had remained closed for a week, and that she did not feel nearly as well in consequence. Dr. Macdonald, my assistant, opened up the wound freely, introduced his fingers into the cavity, and not detecting any foreign substance or hardness, placed in a rubber drainage-tube for more permanent drainage. This relieved her very much, but about September 1st she became suddenly jaundiced, which was quite marked on September 6th, when I saw her, and although not suffering any acute pain, yet she has a loss of appetite and feels some of her old symptoms of itching, general weakness, etc. No marked tenderness in the region of the gall-duct. The cavity of the gall-bladder seemed shrunken and the tube forced out occasionally, but drainage has kept up fairly well. She was given a tonic of bicarbonate of soda, taraxacum, and elixir or cinchona, with directions to return again in a week or two for examination.

Undoubtedly this woman suffered from gall-stone colic, that she got her jaundice from obstruction of the duct in consequence of a stone too large to pass, all of which was relieved by the operation; but that there is left, as a result of previous inflammation, a stenosis of the duct.

The operation in such a case is not a difficult one, and beyond a doubt the results are favorable; but is it not true that this very method of operating has deterred us in some cases from pushing ahead and relieving cases where practically no gall-bladder is to be found? In other words, have we not, from fear of peritonitis resulting and other conditions, been too conservative in attacking our more complicated cases of gall-duct obstruction, such as where we have stenosis, severe adhesions, and apparently no gall-bladder present? The intent of this paper is to deal only with those cases where there is an obstruction of the ductus communis choledochus, the cystic, or of the hepatic duct from any cause whatever. The surgery of the biliary bladder and ducts, where the conditions calling for relief lie within the gall-bladder or cystic duct, is, as I have said, reasonably well established. Cholecystotomy, with suture of bladder-walls to parietal wound, when the viscus is fairly well developed, is not a serious operation. Primary and secondary opening of the gall-bladder I mention here to emphasize the fact that I believe the latter is always to be condemned, for the following reasons:

1. It is necessary always, before the closure of the abdominal wound, that the gall-bladder be opened and emptied, as it is often impossible to recognize conditions until then which will require manipulations, not only within the gall-bladder, but also within the abdomen.

2. Prolonged obstruction in the intestinal portion of the common duct may lead to dilatations of it, together with that of the gall-bladder, and the destruction of anatomical outlines. Ideal cholecystotomy, which I have had in mind in leading you on thus far, has doubtless a circumscribed field of application and is confined to cases where the calculi can be completely removed, and the walls of the gall-bladder and common ducts are in a rela-

tively healthy condition; but it is the operation. Biliary calculi lying in the common duct, in the hepatic or at the mouth of the cystic duct; stricture of the ducts from local ulceration (exceedingly rare); or occlusion of them from external causes, as cancer of the pylorus or pancreas, from calculus of the pancreas lying in the last portion of the pancreatic duct, all require treatment for relief beyond either cholecystotomy or cholecystectomy, according to Langenbeck. Let me illustrate a little further.

CASE II.—Mr. J. W——, aged fifty-one, English, married, and by occupation a plumber. Habits good; never seriously ill. Two years ago was attacked with severe pain in right side, under free border of ribs, and extending over region of stomach. At times much jaundiced. Pain occasionally very severe; treated by many physicians, and a variety of diagnoses given him. I first saw him in the beginning of December, 1890. He was greatly emaciated, and felt very much exhausted constantly. Little appetite, no thirst; bowels somewhat constipated, and stools for the past year have been constantly light in color. Urine scanty, very dark, and on examination contains bile, but no sugar. Is very much troubled all over his body with an intense itching and slight ecchymotic spots. Cannot sleep and is much depressed, although hopeful that an operation of some kind, or some form of treatment, can be suggested for his relief. On direct examination no tumor can be made out. Liver contracted. Notwithstanding his feeble condition, I advised him to submit to abdominal exploration.

Diagnosis, gall-stone in common duct. He desired a line of treatment first, and that he might consult his family and arrange his business. Accordingly, I placed him upon the best of tonics. January 12, 1891, he was admitted to the Albany Hospital, improved in spirits and ready for the operation. He was greatly jaundiced, and very anæmic. Usual preparatory treatment was given him.

Operation, 11 A.M., January 15th. Usual incision for cholecystotomy. Gall-bladder was found completely contracted, surrounded by adhesions, and held under lower border of the liver. In the common duct, in the finding of which I was somewhat embarrassed, I found lodged a long, large calculus which I here exhibit, and which measures in length nearly two inches, and in circumference almost an inch. I found that it was impossible to dislodge it forward, or pass it into the duodenum and that to crush it by external force would probably destroy the duct. I could not make use of needles to break it up, therefore I was obliged to make an incision through the duct its entire length, over the stone, and in this manner remove it. I had placed previously in the wound a flat sponge, and as the duct was opened there escaped upon the sponge a glairy, bile-stained secretion, a teaspoonful or more. The duct was emptied out, and, as it was believed, a probe passed down into the duodenum. I now made an attempt to suture the incision in the common duct, but in consequence of the depth of the wound, the unyielding condition of the parts, due to adhesions, I found it to be the most difficult operation possible. Sutures were introduced, somewhat after the manner here described. The first row, continuous, were introduced just within the serous coat of the duct and brought just within the mucous coat, but not involving it. The second series, Lembert, bringing the serous coat into accurate apposition.

The operation was a long one, and I was somewhat uncertain as to the thoroughness of the closure. Glass drainage-tube was introduced. Strips of iodoform gauze were passed down to the bottom of the wound around the glass tube and external incision partially closed. Patient rallied very well from shock, etc. In the evening it was evident there was some escape of bile, as shown by the tampon of iodoform, and the latter changed. On the morning of the 16th the iodoform was renewed, and then but once after that, as the gauze continued dry and the parts in excellent, healthy condition. The patient now seemed very hopeful, was hungry and anxious for food. Milk given him quite freely; stomach in excellent condition. Itching gone; no anodynes required. Had slept well during the night; bowels moved slightly by aid of enema, and then after that two or three times daily; passages at first well formed, later almost fluid, very yellow and offensive. Urine improved in color at once, although scanty. He suffered considerably from flatulence, although there was no distention whatever. No pain on pressure over any part of the abdomen. He slept a good deal of the time, and though he took plenty of food by the stomach, yet owing to his great weakness an attempt was made to feed him twice daily per rectum. This, however, was not very successful. The flatulence was relieved by small doses of carbolic acid. No vomiting at any time. All seemed to be progressing well. Saw him at 9 P.M. the 19th; his pulse was very good, and I felt much encouraged. After midnight he presented symptoms of heart failure; stimulants, digitalis, etc., used, but he died somewhat suddenly at 6 A.M., January 20th. No autopsy granted, much to my regret.

CASE III.—Mrs. H. H——, aged forty-eight, married, English, housewife by occupation, and mother of several children. For the past two years has suffered a good deal from repeated attacks of biliary colic, and been told her true condition by several physicians who have treated her during the past eighteen months. She has evidently undergone a clear line of medical treatment, but without much benefit. Two years ago she was treated for an acute attack of albuminuria, from which she made a good recovery, but since then has developed her jaundice, itching, emaciation, pain, and all the symptoms of obstruction of the gall-ducts. Is a lovely woman in disposition, and anxious for an operation or any line of treatment that will afford relief. Says she cannot live on in her present sufferings. Her case in many of the symptoms is precisely like Case II. She was admitted to the Albany Hospital April 20, 1891, for treatment and operation. I desire to say here that all three of these cases had, at my suggestion, first tried large doses of olive-oil, but without benefit. After proper preparatory treatment, moving of bowels, etc., and following use of oil with iron and quinine, as well as giving bicarbonate or phosphate of soda and the acid treatments a trial, but without effect except to improve her strength somewhat, the operation was done May 22d. In reviewing the history with the patient a little while before the operation, I learned that about a year previous she had suffered from a well-marked attack of localized peritonitis on the right side.

The usual vertical incision was made, and longer than I have generally employed. The gall-bladder, after much searching and the breaking up of many firm adhesions, was found underneath the border of the liver, and entirely collapsed. I could not make a successful exposure of the ductus communis owing to the many adhesions. I made a crucial incision of the external wound used retractors, and by the aid of flat sponges pressed back the viscera, giving a little better view of the surgical landmarks; but the best efforts gave me only the result of feeling what I believed to be a good-sized gall-stone lodged in the intestinal end of the common duct. I made firm pressure on it with my thumb and finger, and though somewhat uncertain, yet thought I moved it into the duodenum, and that it was partially crushed under my manipulations. Other organs in the neighborhood seemed normal, so far as adhesions would allow of an examination. Wound was closed by interrupted silk-worm gut, no drainage. After the operation, and for three days, the patient vomited quite freely, at times a decidly greenish, bilious-looking substance. How much this had to do with the further dislodgement of the stone I am not prepared to state. Patient otherwise made an uninterrupted recovery, and left the hospital June 7th. Itching was relieved within a few days; stools became normal, something she had not noticed in over a year; urine light in color, and appetite more than good. She had gained also in weight.

This case has given me much thought. From the improvement that followed we must have dislodged the stone, but had I not accomplished this, what could have been done? I do not think the case could have been treated by incision—that is, in the space allowed suturing could not have been carried out. Then, again, incising the uncovered duct would have been somewhat dangerous, owing to the close proximity of large vessels that could be observed.

A fistulous tract might have been established. Suturing the nearest portion of the small intestine to the cystic end of the common duct might have been a success, and which I would favor in another similar case. The last two cases illustrate what I wish to bring out in this paper, viz., the difficulties of treatment where we have a collapsed gall-bladder and strong, firm adhesions. Like all abdominal work, experience is of value. It is very necessary the bowels be put in as placid a condition as possible, that we do not hesitate to make a free external incision, crucial if required, to aid in separating adhesions. Work cautiously but fearlessly. In view of the many cases of gall-stone obstruction that are known to die either from acute or chronic conditions, without operation, we should at present bring our skill to bear in making the operation, when it is performed, as successful as possible in one way or another. Let me state here that I believe it is possible to loosen freely adhesions that have formed in the region of the gall bladder, and that in all cases of severe traumatisms, of whatever nature, we should not hesitate to make free use of the tamponade of iodoform gauze as drainage, or employ the method that has been so clearly recommended by one of our fellows, Dr. Morris.

In relation to suturing of the incision made into the gall-duct, one of the best papers on the subject is that of Dr. H. O. Marcy, in his pamphlet entitled "Relief for Biliary Obstruction," where the steps of the operation are very clearly defined.

I offer the following notes and abstracts as bearing upon this paper, and for the relief of these conditions:

1. Dislocation of the calculus *en masse*, either into the duodenum or into the gall bladder.

2. Cholelithotrity, either by crushing through the walls of the duct with padded forceps or fingers, or from within the gall-bladder by means of the needle or fine probe, followed by removal by the way of the gall-bladder or intestinal canal.

3. Breaking of the calculus by the introduction of strong needles through the walls of the ducts and subsequent dislodging of them.

4. Cholecystenterostomy, according to v. Winiwarter, or modifications of it, as has been suggested by Gaston, of Atlanta, in his elaborate experiments upon dogs.

5. Incision of the gall-ducts and removal of the calculi, with subsequent suture of the incision in the duct, or incision of the duodenum and reaching the duct from that end, as has been done by Dr. McBurney.

The application of all of these methods, for the treatment of the conditions which we have under consideration, involves the controversion of some notions in surgery which, to my mind, are altogether fallacious. The first, that sutures can never be applied to the gall-bladder and ducts with safety. The first cholecystotomy was followed by suture and recovery, as well as many subsequent ones, notably a series of thirteen by Heusner, elsewhere referred to in this paper. The second notion is that the healthy biliary secretion always, when free in the abdominal cavity, causes peritonitis. This is equally fallacious. The experience of Schuppel, Boström, the cases of Paraisse, Sabatier, Thiersch, Heusner, Landerer, and myself, are a few of the many demonstrations to the contrary of this dogma. The peritonitis and fatal results of wounds and rupture of the gall-bladder are not caused by the extravasation of pure bile, but from accompanying injuries, as rupture of the liver, or intestinal canal, and hemorrhage, or from an empyæmia of the gall-bladder, and the presence of attendant micro-organisms.

In order to proceed to a more satisfactory position in the surgery of the gall-ducts we must put these notions behind us, as we have many of the ideas concerning the technique and management of abdominal section. These notions must be placed in experience alongside with flushing the abdominal cavity with solutions of bichloride of mercury and carbolic acid, treating peritonitis by opium narcosis, and the extra-peritoneal treatment of the pedicle in ovariotomy, as well as that other obscure and unthinkable dogma, "When in doubt, drain."

I believe in a wholesome fear of the peritoneum, and in the throwing about our patients every safeguard possible. I should not like to complete an operation, knowing that bile might flow over the intestines in the vicinity of the wound, but I believe that such wounds, by proper drainage with glass tubes and iodoform gauze tamponade, can be made comparatively safe for the patient—at least much safer than the condition for which the operation was undertaken.

Those cases which present the least difficulties are the ones in which the calculi can be removed *en masse*, by pushing them either into the gall-bladder after cholecystotomy (preferable), or into the duodenum. Calculi should not be of large size if introduced into the duodenum, on account of their producing intestinal obstruction later. Fracture or incision, and removal from the intestine, can be employed. Sprengel[1] shoved a large calculus into a diverticulum of the dilated duct, supposing it to be the duodenum, without relieving his patient. The danger of tearing the duct across its diameter, as has already occurred, must be kept in mind and will necessarily circumscribe its employment. The second procedure, together with the third, may be employed in suitable cases, but the question will always arise between them and the employment of the fifth procedure, that is, incision and removal.

The fourth method of treatment, by establishing a new communication between the biliary ducts and the intestine, must have always a certain utility, especially where it is found that the seat of obstruction (the common duct) is bound down by adhesions, and cannot be made accessible or perhaps not found at all—the experience of many operators. Then, if a communication is sure between gall-bladder and the liver, a cholecystenterostomy can be performed. Here a modification of Senn's decalcified bone-plates, or the segmented rubber rings, can be employed and an anastomosis made. By this method I believe the operation will be greatly hastened.

To one doing abdominal work, and especially about to operate upon the gall-bladder or ducts, I would advise a careful perusal of the experiments made by Dr. J. McF. Gaston, of Atlanta, Ga., in a paper entitled, "Experimental Cholecystotomy."[2]

In France, the operation bearing the name of v. Winiwarter has recently received much attention, and very flattering results have been reported. In pursuing the study of this operation it was of great interest to find the report of an autopsy by Kappeler (Virchow-Hirsch, "Jahres-berichte") of a patient dying from other causes who had fifteen months previously been operated upon according to the operation of v. Winiwarter. The fistula established was about eight feet from the ileo-cæcal valve, and over its intestinal orifice had a valve which only permitted the contents of the gall bladder to pass readily into the intestine, but prohibited the passage of intestinal contents into the gall-bladder. This case is exceedingly interesting, showing that it is not so absolutely necessary to use the duodenum, or get so very near the opening of the common duct.

Under the fifth division, that is, incision and suture of the gall-ducts, we have, I believe, in many cases a method which promises great success, where heretofore the cases

[1] Verhandlung der Deutschen Gesellschaft für Chirurgie, 1891.
[2] Atlanta Medical and Surgical Journal, 1884.

have been treated by the establishment of biliary fistula, which only relieved for a short time. All these patients eventually died, that is, with biliary fistula, apparently not getting entirely well.

It is true that my patient (Case No. II.) died, but there was no peritonitis, and before operation his condition was very serious, being already cholæmic, with those changes in pulse and heart which accompany this condition. His death may be attributed solely, in my mind, to exhaustion consequent upon his condition prior to the operation. So far as I am able to learn, incision of the common duct has been performed seldom in this country. Marcy refers to it in his last pamphlet. Küster, Kümmel, Braun Rehn, Heusner, have reported each a case, and Courvoisier three cases.

The technique of the operation, for incision of the common duct, I would refer to as follows:

The usual vertical incision from the tip of the cartilage of the tenth rib is made of sufficient length to permit of free examination. In some cases, for the completion of the operation it may be necessary to make a transverse incision through the right rectus abdominalis. An incision over the stone in the line of the duct is made. If any considerable fluid is behind it, in the duct, it had better first be withdrawn by an aspirator, otherwise sponges may be placed so as to protect the surrounding parts, the incision made, and the removal of the stone accomplished. The introduction of the sutures requires great care, a spear-pointed, curved needle, point full, with a round shaft—such as the very finest used for work on the cervix, is most suitable—a good needle-holder, of small pattern, and aseptic sutures of any kind, preferring the iron-dyed silk No. 6, are all that is required. The first row of sutures, continuous, introduced just within the serous coat of the duct and brought just within the mucous coat, but not involving it; the second series, Lembert, bringing the serous coat into accurate apposition.

The suturing completed, to avoid the extravasation of the fluids, if the stitches should give way, a glass drainage-tube should be introduced (Price's pattern) so that the bottom end rests lightly over the line of the sutures. The tube is then to be surrounded on all sides by an iodoform gauze tampon, the ends of which are left in the abdominal wound. Closing the latter with silkworm gut sutures ends the operation. One or two silkworm gut sutures may be introduced and tied in a loop, so that after the removal of the tamponade, after forty-eight hours in favorable cases, they may be tied and the abdominal wound more completely closed.

The Same Old Story.—Medical men practising in the poorer districts of London have, like their brethren elsewhere, long been complaining that their ordinary patients are taken from them by the free hospitals and dispensaries. Hitherto, however, their midwifery patients have been spared to them. Now, according to the *Hospital Gazette*, even these are to be taken away from the unfortunates practising in the King's Cross district. In order to give the women students "walking" the Royal Free Hospital instruction in practical midwifery, the authorities have, we hear, opened a midwifery department, through which women residing within about a mile of the hospital in Gray's Inn Road can be attended, during the lying-in period, by lady students, free of charge. As many of the doctors in that district derive a great part of their income from half-guinea midwifery fees, the competition of the hospital will, to them, be a very serious business.

Will do Better Next Time.—An unique attempt at suicide was made recently in this city by a man who jammed a teaspoon down his throat. In what way he expected it to act we have not learned; but the would-be suicide is evidently a man of determination and is not one to be balked by one or two failures.

A PLEA FOR FULL MECHANICAL DILATATION OF THE PARTURIENT CANAL BEFORE OBSTETRICAL OR GYNECOLOGICAL OPERATIONS.[1]

By GEORGE E. ABBOTT, M.D.,

NEW YORK.

Mr. President and Fellows: Some time since, I was engaged to attend Mrs. G——, a multipara, for her confinement. Upon reaching her bedside she said she would not have called me so soon, but that she feared the bladder was coming down in front of the child. Inspection showed an immense hypertrophy of the membranes, tough and strong, and an excessive amount of liquor amnii, so that the entire parturient canal, including the vulva, was dilated to its utmost, and a bag of waters as large as a full-sized head had already been born. Upon examination there was found a vertex presentation, but that the head had not engaged, and was still at the superior strait. On rupturing the membranes the waters poured out, and within six minutes thereafter a large child was born.

There seemed to me in this case a principle involved which might be of useful application, and upon meditation there came clearly to mind, one after another, the advantages of a full mechanical dilatation of the cervix, vagina, and vulva before the application of the forceps, or other obstetrical operations, and I would ask you to follow me for a few moments in considering them.

Let us recall some of the injuries of parturition, whether caused by nature or by the accoucheur, either from too great haste, carelessness, or excitement, or by urgent necessity, and then see whether the proposed method will not probably remove the cause, prevent the injuries, and alleviate or abolish the sequelæ.

In cases of puerperal eclampsia this method is not applicable because the labor must be terminated as soon as possible. The canal must be forced open and the child extracted immediately. There is no time for medication, nor Barnes or Molesworth dilators, nor yet for any careful and full dilatation.

In those cases of interference, however (which are by far the greater number), where nature must be helped surgically, but where there is no vital need for haste, this method is applicable, and should, I think, be practised; in fact, in all cases where there is time, to properly dilate the undilated passage (the mother and child both being safe), and then having done so, complete the delivery as soon as possible. And this method would seem to be specially efficacious and desirable where we have to apply the forceps, because then we must proceed slowly for the mother's, but rapidly for the child's sake, so as to prevent laceration of the maternal parts, and compression of the child's head, with its sequelæ, which are too often overlooked and placed in the category of diseases of the "newly born" without seeking their full etiology. By first fully dilating the parturient canal, as above suggested, we accomplish both of these objects, and secure a rapid and safe second stage.

One author says, "A rigid os—vaginal bands—persistent hymen, and a pathological perineum demand the forceps." To my mind they demand a careful mechanical dilatation, aided, if necessary, by the knife or scissors, until the passage is cleared of obstructions and sufficiently enlarged. This should be done prior to the application of the forceps, and I am confident that if this course be pursued many of the injuries liable to accompany the use of forceps without first dilating will be avoided. Consider how changed the conditions would be. After carefully and scientifically removing all obstructions and dilating the canal, with what comparative ease the forceps could be applied, and how promptly and safely the child could be delivered, with a minimum of laceration for the mother and danger to the child. It is the gain to the delicate structure of the cerebral substance and the sensitive membranes of the child that we

[1] Read before the New York Harvard Medical Society.

should consider, as well as the prevention of maternal lacerations.

In version we find that a living child may be rapidly brought through a well-dilated passage, while the delay in slowly dilating the track with the child's body, with its attending long compression of the cord and an impacted after-coming head, gives us a still-born child. With a large exit there is not so great a tendency for the arms to be carried over the head.

In dystocia from inertia the suggested dilatation of the vulva is often sufficient to bring on good bearing-down pains, for the dilating hand gives the same reflex irritation that the head does upon the perineum, which encourages the uterus and calls into action all the force of the abdominal muscles to complete the expulsion of the child.

Herein, however, lies one serious objection to this plan, viz., that in case of tetanic or excessive uterine action, with an unremoved obstruction, the perineal reflex should not be excited. In these cases the dilatation should be postponed until the excessive action is overcome by anæsthetics or anodynes.

As to embryology, craniotomy, decapitation, vaginal hysterectomy, delivery of fibroids, and so forth, mere inspection of the accompanying cuts (Figs. 1 and 2), which should be compared perpendicularly, must make it apparent to all that the canal should be fully dilated before operating, so as to secure ample room for so doing, and especially for the removal of the sharp bony fragments; and yet the present practice is for the accoucheur to commence proceedings by introducing his instruments as in Fig. 1, the passages being all of them relatively contracted, and not until he has consumed much time, and possibly done much damage, accomplishing little, if any, good, has he, by his awkward movements, unintentionally dilated the parts, as in Fig. 2, and not until then can he do effective work. How much more scientific to do this dilatation, in the first instance, properly and with a purpose, and thus avoid the unfortunate accidents often occurring.

In regard to mechanical dilators, there are perhaps none better than the old ones, Barnes's and Molesworth's, and the vaginal and cervical tamponades; but, best of all, the hand. And in the use of any dilator, the hand or any other, care should be observed in the matter of antisepsis. At a discussion on this subject in one of the leading medical societies of this city much was said as to the surgeon's hand, his toilet, his finger-nails, etc.; but nothing in regard to the corkless vaseline bottle, that culture-den of microbes, nor of the patient's vulva, with all its capillary forest, infested with bacteria from which the most thoroughly aseptic hand must carry whole armies of bush-whackers into the very citadel we wish to guard most carefully. Also let us not forget to cover unwashed blankets and comfortables with a clean sheet, to thoroughly sterilize the patient's vulva, abdomen, and thighs, and where the bichloride solution is used, to be sure to replace the natural mucus by some aseptic lubricant.

In regard to the dilating hand, let me suggest the desirability of the accoucheur reducing the size of his hand by frequently pressing and squeezing it with the other hand, or better, by using a lubricated funnel of wood or metal, as in Fig. 3, by which the circumference of the hand is materially reduced, and its flexibility increased without impairing its strength.

Fig. 1.

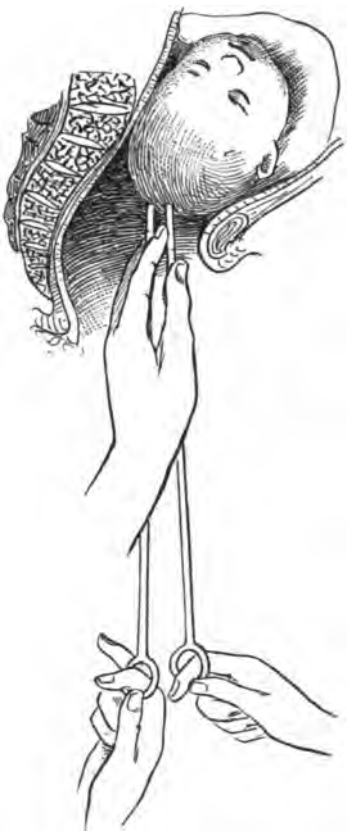

Fig. 2.

Fig. 3.

Fig. 4.

In operating, pass the hand through the vulva in as small a cone as possible (Fig. 3), then dilate the cervix carefully with the fingers, avoiding rupture of the membranes. While the fingers are at work within the cervix, let the hand and forearm be at work on the vagina and vulva. The perineum can be finally dilated by the forearm. The dilating hand should not be repeatedly inserted and withdrawn from the vulva, thus carrying sepsis with it, but should remain in the vagina until dilatation is quite complete, frequently closing the hand carefully into a fist, as in Fig. 4, partially at first and then larger; this will increase its dimensions, giving the dilatation required.

The hand should be rotated but sparingly, and with much caution. It is much better to avoid rotation and to carry the hand bodily from pubes to coccyx, and from one ischia to the other. During all this, let an aseptic towel be wound around the arm, which shall form a washer or cover to the vagina.

This at first may seem like "meddlesome midwifery,"

but on careful consideration I believe it will be found scientific surgery.

I do not advise this mechanical dilatation in all cases, but only where it is indicated, and I believe it to be indicated in most cases where anæsthetics are given; and although it requires a few minutes' time, it will usually be when both mother and child are safe, and the time can be taken, and I am confident that the result of the operation will be far better and much safer to both, and will in this way save much time otherwise occupied in a tedious convalescence from possible injuries. I shall surely be asked what is the percentage of my results? This I am unable to answer, for I have not as yet practised the method sufficiently long to have established a percentage, but in *every* case thus far I have secured the most satisfactory results.

I have brought this subject before you in the hope that others will examine into it, and practise it, and thus through the extent of its use we may soon arrive at reliable conclusions, which are impossible without considerable lapse of time in the practice of one only.

The gist of all this is, first, to secure ample room in which to operate; second, having begun the second stage, to complete it more rapidly; and third, in operating, to do less injury to both mother and child.

Some of the advantages of fully dilating the parturient canal before operating are: A decidedly better diagnosis of position and of any complicating obstructions; easier application of the forceps; less likelihood of lacerations; next to the normal bag of waters, the most scientific and careful dilatation of the canal; less danger of still-birth or long compression of the head, with its sequelæ of diseases of the newly born; less need of forcible pressure from above; less danger of extension of arms; stimulating the atonic womb and abdominal muscles, in cases of inertia, and at the same time preserving the womb's strength for post-partum contractions; the avoidance of continued pressure upon the pelvic nerves, with its sequelæ of paralyses, inertia, post-partum hemorrhage, and phlebitis; greater freedom of operating; more room in which to remove the bony fragments. Moreover, the child remains unmolested and in safety until such time as the maternal parts are adapted to a safe and speedy delivery.

A NEW METHOD FOR THE ADMINISTRATION OF THE IODIDE OF POTASSIUM.

By D. BRYSON DELAVAN, M.D.,

NEW YORK.

The irritating effects of iodide of potassium upon the stomach, and the difficulty of administering it in large doses in many cases in which it is necessary to bring the system rapidly under its influence, are well known, and have been the occasion of numerous efforts to correct these disadvantages.

The ends to be gained in giving the iodide are, (*a*) thoroughness and rapidity of assimilation, (*b*) administering it in such a manner as to render it unirritating, and (*c*) sustaining the patient's nutrition during the period of its administration.

To meet these requirements it has been suggested that the dose for twenty-four hours be subdivided into a number of small portions, to be given six, eight, or even twelve times per diem, instead of in the usual triple dose. In order to aid its assimilation it has been given in solution with wine of pepsin as a menstruum, and, for the above purpose also, and to render it unirritating, as well as to secure to the patient a certain amount of nutriment, the excellent device has been practised of giving it in milk. It has also been given hypodermically, and by the rectum, and is often prescribed to be taken in Vichy water. Of the above methods, those in which wine of pepsin and milk are employed are the best; indeed, the latter marked a distinct advance in the use of the drug, and has proved to be exceedingly valuable, disguising to some extent the taste of the iodide, causing it to be less irritating, and affording with each dose a small but desirable amount of food. The substitution of the article known as "matzoon" in the place of milk is often advantageous, and an improvement upon the latter.

The writer has had opportunities of studying many cases of active tertiary disease of the thorax, and has experimented with various methods for the purpose of overcoming in such subjects the following common difficulties, namely, pain and difficulty in swallowing, gastric irritation, faulty assimilation of the iodide, loss of appetite, and distaste for food, and finally, general depression from lack of nourishment; and has found that all of the desired indications may be most satisfactorily met by an exceedingly simple device.

If pepsin be added to warmed milk the result is the well-known article, "junket," "rennet custard," or "rennet curd," the pepsin acting upon the milk as a digestive, and causing it to curdle and to form a delicate, jelly-like mass, which is attractive to the eye, palatable to the taste, more easily swallowed than anything, perhaps, but an oyster, and remarkably easy of digestion and assimilation. This curd forms an admirable vehicle for the administration of the iodide, and in the proportion of ten grains of the iodide to four ounces of milk effectually disguises the taste of the salt. If a stimulant be required, a little sherry wine may be added. The iodide should be used in a saturated solution with water, one drop of which equals one grain of the drug. Any good pepsin may be employed; that which the writer has found most effective in its prompt and thorough action upon the milk, and most agreeable to the taste, is the so-called "Fairchild's essence of pepsin."

To administer a five-grain dose of the iodide, place five drops of the saturated solution of the iodide in the bottom of a small tumbler, with fifteen drops of essence of pepsin, and if desired, a teaspoonful of sherry, upon this pour two ounces of warm milk, and set away in a cool place. The milk must not be too hot, as otherwise the digestive properties of the pepsin will be destroyed. Coagulation soon takes place, and the mixture is then ready for use.

For the general convenience of the patient the following formula may be dispensed:

℞. Potass. iodid. (sat. sol.)..... 160 grs.
Essence of pepsin..... ℥ j.
Sherry wine.....q.s. ad ℥ iv.

M. Sig.: ℥ j. in four tablespoonfuls of milk, according to directions.

While this method may not be necessary in many simple cases, there are, nevertheless, a very considerable number in which it may be employed, and in which it will be found to fill the required conditions better than any other now in use.

The New Russian Pharmacopœia, now in press, will contain 808 articles instead of 1,026 in the last edition. One hundred new articles have been added, while 318 old ones have been omitted.

Inebriety and Medical Practice.—A Cincinnati evening paper, commenting upon the Georgia law concerning physicians addicted to alcohol, says that legislation of a similar kind is needed in Ohio, as a few days since a Cincinnati physician was taken off the streets suffering from delirium tremens, while still another was locked up in the workhouse convicted of habitual drunkenness. And one of the most prominent men in the Cincinnati Medical Society, some years ago, conscious of his consuming appetite for rum, invariably wrote his prescriptions twice, each time keeping a copy, thinking thus to escape any mistake which he was fearful he might commit while intoxicated.

REMARKS ON FRACTURE OF THE STERNAL END OF THE CLAVICLE DUE TO MUSCULAR ACTION.[1]

Report of a Case Caused by Coughing.

By ADOLPH RUPP, M.D.,

New York.

"The clavicle is more frequently broken than any other bone in the body except the radius,"[2] and more than one-half of the fractures of the clavicle occur before the end of the fifth year of life, and during this period of life they occur with about equal frequency in both sexes. After the fifth year these fractures happen oftener to males. In seven hundred and seventy-two fractured clavicles treated at the Middlesex Hospital during sixteen years (452 males, 320 females) only twenty-eight times was the fractured clavicle found in people (18 males, 10 females) over sixty years of age.[3]

The late Doctor Lente found the sternal end of the clavicle fractured only three times in one hundred and fifty-eight cases of fractured clavicle.[4] And Stimson says the fracture may occur at any point of the inner third of the clavicle.[5]

It will have been inferred from the foregoing facts and statistics that fractures of the inner third of the clavicle are relatively very rare occurrences; and this is so for any and all causes.

Fracture of the clavicle due to muscular action is rare. In 1864 Gurlt collected twenty cases of fracture of the clavicle due to muscular action, and found most of them fractures of the middle third. In 1873 Delens collected eight cases of fracture of the inner third of the clavicle—the fractures due to muscular action.[6] And cases of this kind, says Gurlt, are not necessarily accompanied by any bone disease as a causative agent.

Accidents of this kind are due, according to Erichsen, to back-handed blows, or, as Gurlt puts it, to some forcible backward movement of the arm.

Before detailing my own case I shall cite three cases which illustrate the manner in which these fractures are produced.

Willard Parker, M.D., reports the case of a mulatto, who was a sportsman, and in a bad state of health, and who, while attempting to strike a severe blow at a dog, broke his right clavicle at the junction of the middle and inner thirds. Union favorable.[7]

W. E. Whitehead M.D. (Surgeon United States Army)[8] reports[9] a case from David's Island, N. Y., as follows: A German, twenty-eight years of age, while trying to raise himself to the top of a platform, felt a snap near his left shoulder, to which he gave no further heed at the time. He slept well during the ensuing night, but next morning experienced pain when he attempted to recline on the left shoulder. A transverse fracture was found at the edge of the trapezius muscle, at about the junction of the outer and middle thirds. No discoloration, nor swelling of the tissues was found at the seat of fracture. This man had relatively large muscles and small bones.

Stimson quotes the case of a boy (from Le Gros Clark) who, while swinging by the feet from a trapeze, tried to raise himself so as to seize the bar with his hands; the clavicle broke in its inner third.

And now my own case. Mrs. L. G——, sixty-nine years of age, the subject of typical scoliosis, bronchitis, and emphysema, while lying abed on her left side, and while coughing, stretched her arm around and backward to grasp a mug from a chair that stood at the head of the bed to her right. While doing all this, in much less time than it takes to tell it, she felt a snap and stitch of pain at the upper portion of her chest, to the right of the sternum, which startled her. On looking she found a protuberance at the seat of pain. When she kept quiet there was no pain; but it hurt her whenever she coughed or moved her right arm and shoulder. Several days after the occurrence of the accident I was called to see her, and found a transverse fracture one and one quarter inch from the sternal tip of the clavicle, and four inches from the acromial end to the fractured end of the sternal fragment. The outer end of the sternal fragment was directed slightly upward and inward, and overlapped the acromial fragment about one quarter of an inch. The fracture was just to the outer edge of the sterno-cleido-mastoid muscle attachment, and this muscle was more apparent than the same muscle of the left side. There was no extravasation of blood, and neither was there any amount of tissue-swelling worth noticing. There was crepitus—not the crepitus of roughened bone edges, but the crepitus of bone rubbing over bone—and pain when the fragments were manipulated.

The woman is much emaciated, and her muscles, otherwise than large and powerful, can be felt under the loose skin; and the bones—clavicles and ribs—can be seen and felt along their entire length. Cases like Parker's, Whitehead's, and mine are easy to diagnosticate; but writers as experienced as R. W. Smith, M.D., have had reason to write as follows: "The subject of fractures engaging the extremities of the clavicle is one of importance to the practical surgeon, inasmuch as these fractures are frequently the source of embarrassment in diagnosis. The absence of appreciable displacement in some of them, and the resemblance which others bear to dislocation, are the chief causes of uncertainty."[1] And by way of contrasting the cases I have cited with what a recent much-praised writer feels himself justified in teaching on this subject, I shall quote from Hoffa's, in many respects admirable book[2] on "Fractures and Dislocations." Hoffa says: "Usually no displacement occurs at the sternal third (in cases of fracture of the clavicle), for that is possible only when the periosteum, muscles, and sternoclavicular ligament are torn, and a non-serrated fracture obtains. . . ." And he goes on to say, "When displacement of the fragments does occur, the sternal fragment remains *in situ*, the acromial fragment pointing upward. If the fracture is due to muscular action, extravasation of blood and swelling are found along the bone, and if crepitus cannot be felt, localized pain will be the pathognomonic sign." All this that Hoffa says is not impossible and may fit the accident at times, but mine and the other cases cited demonstrate that his quoted assertions are somewhat misleading. The probable efficient agents at work in producing Mrs. L. G——'s fracture were the clavicular fibres of the deltoid and pectoralis major muscles, which, contracting, drew the inner portion of the clavicle downward and outward, and the clavicular portion of the sterno-cleido-mastoid muscle pulling in antagonism upward, the first rib acting as a fulcrum against which the contending forces were exerted. The peculiar voluntary movements of the woman, already described, coughing at the time, favored and accentuated the action of the forces just mentioned.

406 West Thirty-fourth Street.

[1] Read at the October (1891) meeting of the Society of the Alumni of Charity Hospital.

[2] Packard's edition of Holmes's System of Surgery, vol. i., p. 845.

[3] Ibid.

[4] New York Journal of Medicine, 1851, p. 160.

[5] Treatise on Fractures and Dislocations, 2d ed., vol. i., p. 329.

[6] Stimson: Op. cit., vol. i., p. 332.

[7] New York Journal of Medicine, 1852, vol. ix., p. 96.

[8] This case of Whitehead's is mentioned along with those of fracture of the inner end of the clavicle in illustration of (and by contrast) the modes in which the clavicle may be fractured by muscular action and also to show that fracture by muscular action does not necessarily imply much swelling and extravasation.

[9] Pacific Medical and Surgical Journal, 1870–71, vol. i., p. 455.

Charity Hospital.—It is rumored that the name of Charity Hospital, Blackwell's Island, New York, is to be changed to that of City Hospital, and that numerous alterations in the *régime* of the institution are to be made at the commencement of the year whereby the attending staff is to be reduced and the terms of service lengthened.

[1] Dublin Quarterly Journal of Medical Sciences, vol. for 1870, p. 8.

[2] Lehrbuch d. Fracturen u. Luxationen, 2te Auflage, p. 162.

INTESTINAL ANASTOMOSIS.

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SINCE the introduction of Senn's method of intestinal surgery various operators have endeavored to modify the technique and apparatus. While some advantage has been gained, there has been much that has not proved of any material value.

I have written this paper to call attention to a few points that seem to be overlooked in the technique of this special branch. These are factors when rapidity is a necessity.

In my paper read before the Philadelphia County Medical Society, April 12, 1890, I discussed the value of the various rings in use at that time. This was based on a great number of operations. Since then I have found no reason sufficient to alter my first conclusions.

Brokaw's ring, for simplicity of manufacture, ease of introduction, and completeness of coaptation, has not been superseded. Senn's plate stands prominent in gastro-duodenostomy for maintaining firm coaptation and preventing stenosis by contraction. The stomach-ring can be less decalcified than the duodenal plate, therefore resisting the action of the secretions for a longer period.

Dawbarn's vegetable plates are a new feature. They have the advantage of being easily obtained and are easy of dissolution, but are impracticable, except when used in the method he suggests.

The time required for an intestinal anastomosis by lateral approximation is but ten minutes from beginning to end. The new methods have not decreased, but rather lengthened, the operation. This increase has been made by the efforts to render the opposing bowels more secure Various sutures have been advised for this purpose. Operations frequently repeated have convinced me that if the approximation ligatures have been introduced at a proper distance from the incision in the bowel and properly tied, firm coaptation will be got sufficient to prevent fecal extravasation. It is in the tying of these ligatures where success lies.

If your assistant knows the technique he will give invaluable aid at this stage of the procedure. He will so bring the opposing bowel into relation that the lateral walls of the intestines will well overlap the point of ligature; then if the ligatures have been introduced at the proper place the knots will be thoroughly hid. It is a fact that much fault lies in two defects in tying these ligatures either too tight or too loose, therefore necrosis by pressure or lack of firm coaptation.

To show the superfluity of complicated stitches I wish to make the statement, which experiments prove, that in an injury to the intestine, either by accident or design, paralysis occurs, consequently absence of peristalsis, therefore absence of gas and fecal matter in the portion of bowel operated on; distension does not occur, consequently no tension. As neither gas nor fecal matter can enter a paralyzed gut, we can readily see the uselessness of sutures to support. Obstruction from paralysis shows the paralyzed portion of gut empty and distention in the proximal portion.

Recognizing this fact, I have contented myself, when I thought additional security was necessary, by the introduction of two or four interrupted sutures around the area of approximation. These have given me all the results desirable.

I have advised an additional continuous suture in ileocolectomy by approximation, to give support, as I consider the approximation at this place unreliable, made so by the anosmic action of the colon.

I have had the most excellent results in gastro-duodenostomy by simple approximation, though I consider Weir's method as very advisable to prevent dragging.

Scraping of the peritoneum was advised by Dr. Davis, of Alabama. It has no advantage over scarification, and the possible disadvantage of exposing muscular tissue to muscular tissue. The intestinal tissues in obstruction are rendered exceedingly soft by extravasation and inflammation, and are easily removed. I have seen the most perfect union where neither scarification nor scraping had been done.

The scraping of the invaginated portion is unnecessary; it consumes time. I have seen the whole of the invaginated end entirely covered with plasma in dogs that had been killed four hours after operation. The sutures would be completely hid.

In sewing the invagination three whip-overs of a continuous suture will be sufficient. The mesenteric side is secured first by a snug knot, the forceps holding the inverted portion until the second whip-over is entered; then they are withdrawn.

The method of attaching the bowel before incision is unique. The advantages claimed are: better coaptation and prevention of fecal extravasation over coaptating surfaces. These are accomplished at an expense of time and labor.

The free use of distilled or boiled water will obviate any fear of septic infection. The introduction of the sutures and plate has not the same facility as the original method.

Coaptation is perfect if made so. Time is the object, security to the patient being understood.

1253 SOUTH SEVENTEENTH STREET.

CASES OF COCKLE-BURS IN THE LARYNX.[1]

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COCKLE-BURS in the larynx are rare. They are still more rare in the trachea. The reason is obvious. The superior and inferior vocal cords afford a sensitive guard to the windpipe. Occasionally, in sudden respiratory movements, these guards or gates are opened or taken by surprise and the foreign body escapes into the windpipe, then contracting afterward it effectually closes the gate of exit—"the portcullis falls."

Between December 19, 1889, and January, 1891, it has been my fortune to have four cases of burs in the larynx. That is, they were in the laryngeal pouch, in "sacculus laryngis," all visible and located by laryngoscopic examination. The first and third were cockle-burs, the second and fourth were somewhat smaller bodies, called cockspurs.

These bodies, with their numerous small projections, present unusual difficulty in their removal. The subjects are as a rule young and unmanageable, the body small and covered with sharp points, so that the slightest manipulation causes such pain and spasmodic contractions of the glottis, that it is almost impossible to make the necessary examination and remove them, even with cocaine.

The first case presented urgent symptoms, requiring operation on the third day. This was successful. The other three were treated on the expectant and palliative plan, and nature relieved the difficulty. In each case the position of the body was defined, and they were all in the laryngeal pouch. The voice in all four cases was lost for the time. It was subsequently restored in a variable time after the foreign body was expelled.

The object of this paper is to show that when burs are confined to the larynx, in the pouch above the cords, when they are visible with the laryngoscope and yet cannot be removed, and the case can be daily seen and watched (unless symptoms become urgent), expectant treatment is comparatively safe for the patient. The bur will be expelled and the voice restored in a given time.

On the other hand, when the foreign body is in the trachea, invisible with the laryngoscope, operation at the

[1] Read at the Annual Meeting of the South Carolina Medical Association, June, 1891.

earliest moment is usually imperative (though exceptions in the case of burs and other foreign bodies do occur); and as a rule, if not done promptly, death is almost always the result sooner or later.

When the foreign body is in the laryngeal pouch it becomes fixed, when in the treachea it is movable, often changing its position throughout the length of the tube, giving rise to repeated paroxysms of pain and suffocation. This is not the case when the body lies immovable in the laryngeal pouch. The symptoms of almost any foreign body in the air passages are appalling at first; suffocation seems imminent, the distortions, terror, and anguish of the patient need not be described. Hope deserts the little sufferer, and the mother breathes a prayer that death may end the sufferings of her child.

With a change in the position of the body, caused by the apparent death-struggle, temporary relief is afforded. "Hope springs eternal in the human breast," and now, in these periods of relief, patient and parents alike cling to it like an *ignis fatuus* leading the follower on to destruction. The surgeon arrives—the patient is for the time comparatively easy, though there is stridulous breathing and the voice is only a whisper. There is something peculiarly touching as the unfortunate points with the forefinger to his throat, with eyes begging piteously for relief.

An examination is made with the laryngoscope. If the bur is in the laryngeal pouch and cannot be removed with forceps, delay is indicated; if in the trachea, the inevitable consequences are explained, and an operation promptly advised.

Too often hope again intervenes her delusive voice and whispers, wait; the mother refuses to have her child's throat cut; the opportunity is lost, and perhaps a life is lost which might have been saved by a simple operation. There is scarcely an instance in the range of surgery where the patience of a physician is more tried by opposition to a rapid and comparatively safe operation. To a skilled surgeon, with his instruments and appliances at hand, opposition in such cases almost seems like manslaughter.

To the doctor in the country, in whose practice most of such cases occur, often without all the necessary instruments and assistants, without the support of consultation, and with a life hanging in the balance, the situation is peculiarly trying. In the city the surgeon returns in one or two hours, or can be summoned promptly, while in the country he has got to stay, to stay and do nothing except to give an emetic, a subcutaneous injection of morphine (a doubtful remedy), and perhaps more than all, the confidence his presence may inspire. His position is not enviable.

Now, it is just here that the important distinction by the attending physician or surgeon should be made when the air-passages are invaded by a foreign body. Is it in the laryngeal pouch, above the vocal cords, or is it in the trachea, and below the cords? If in the pouch and cannot for some reason be removed, and suffocation is not imminent, we can safely await developments, for by this time the patient is enjoying a season of rest. If in the trachea, notwithstanding the temporary relief, operation is called for, and the sooner the better.

Just here comes in the use of the laryngoscope, for with cocaine to paralyze the sensibility of the parts, we are insured a careful examination, and the position of the foreign body may be accurately defined.

Few country physicians have the instrument, and few are expert in its use. Now, in the absence of direct information by laryngoscopic examination, symptoms are our guide.

The symptoms of foreign bodies in the laryngeal pouch and in the trachea are at first nearly the same, subsequently they are different. By these signs we may determine with comparative accuracy whether it is in the one or the other. The differentiation is quite important.

If in the larynx, after the first one or two paroxysms of asphyxia are over they become less frequent, they last a shorter time, and the distress is not so great. The body has become stationary or only occasionally changes its position, and the pouch gets more and more tolerant of the intruding offender. Stridulous breathing is present throughout. Any fresh disturbance is the result of a new irritation, or is the effect of reflex action set in motion or aroused by a slight change of position of the foreign body.

The symptoms of a foreign body in the trachea differ somewhat. The spasms of asphyxia are more frequent, more painful, and more persistent. The inspiratory and expiratory currents of air constantly change the position of the body, which, ascending and descending, may finally drop into one of the bronchi and stop or lessen the air passing to that lung. There is also danger that in these movements it may become impacted in the chink of the glottis and death ensue.

According to the roughness or smoothness of the foreign body, and to its weight, more or less lymph and mucus will collect on its surface and thus increase or decrease the chances of displacement.

In both the voice and articulation are involved to a greater or less extent, and stridulous breathing is constant. Râles may be heard when the body is in the trachea, and the respiratory murmur may also be affected. Râles also are heard when the foreign body is in the larynx, but not to the same extent—they are modified. The foreign body being above the vocal cords, in the sacculus laryngis, and yet for reasons not removable, when no danger of suffocation arises it is safe to watch and wait. Nature will respond, and expulsion will probably take place in from one to ten days. The foreign body being in the trachea, operation is to be done promptly, because the vocal cords when irritated contract spasmodically, closing the rima glottidis, effectually preventing the egress of anything below, except under accidental or fortunate circumstances which rarely save the patient after many months of suffering.

The barrier formed by the vocal cords to the expulsion of a foreign body in the trachea is shown in numerous instances wherein after months the trachea is opened and it escapes through the artificial opening made, sometimes with considerable force, generally with a quantity of mucus and pus. When left to nature life is sometimes saved, but the patient usually succumbs to exhaustion or septicæmia.

The symptoms above described—differentiating foreign bodies in the larynx and in the trachea, and formulating the treatment which, in my opinion, should guide us in those cases where they cannot be removed at once, and are so difficult and perplexing to the surgeon—can be best illustrated by a detail of the four following cases, already referred to:

Case I.—December 19, 1889, Rosa N——, aged ten, of Summerville, S. C., was referred to me by Dr. Samuel Prioleau. While picking some cockle-burs from her father's clothes, on the 18th, she put one in her mouth and accidentally swallowed it. Urgent symptoms ensued. She passed a bad night and reported with her father at my office on the 19th. At this time the breathing was painful and she could only speak in a whisper. A solution of four per cent. cocaine was applied, and the bur was detected on the left side of the laryngeal pouch, in the vocal cord. The pain was so acute, in spite of the cocaine, the child so young, and the spasm of the larynx so great, that I was unable to remove the bur after repeated attempts with McKenzie's forceps. Each time they were applied, the prickly prolongations on the bur pressing into the cord produced such involuntary contractions that I was obliged to desist. I determined to wait till the next day, when, finding the œdema and swelling of the glottis on the increase, and attempting to remove it again and failing, she was put on the table for operation at St. Xavier's Infirmary, where she had been sent. Laryngotomy was performed under chloroform,

with antiseptic precautions. On passing in the forceps I felt the bur move, and at once noticed that the breathing was easier. After that I could not find it again, and concluding that it was swallowed when pushed up, the wound was closed. Two hours after, during the nausea following chloroform, the bur was vomited up, covered with lymph. Specimen exhibited. The wound healed by first intention, recovery was prompt and without note. The voice was entirely restored in about two months.

CASE II.—September 19, 1890, Jennie S——, colored, aged seventeen, Sullivan's Island, S. C., was sent to me by Dr. P. G. De Saussure with cockspur in larynx. The voice was husky, and she complained of a sticking sensation when swallowing. She had taken an emetic of alum and repeated it without success. When I saw her there were no violent symptoms of dyspnœa; the bur could be seen on right vocal cord, in the laryngeal pouch. I was unable to remove it, owing to spasmodic contractions whenever forceps were applied. On the 20th, there still being no bad symptoms, determined to wait after spraying the throat with borax, and then with cocaine. On the 21st and 22d the same treatment was followed. On the 23d the bur was expelled covered with lymph. Specimen exhibited. The voice was restored in about two weeks.

CASE III.—December 14, 1890, Maude W——, aged twelve, Pleasant Hill, S. C., was sent to me by Dr. S. Beckham. On the 13th, while picking burs from her father's clothes, she put one in her mouth and accidentally inhaled it. Difficulty of respiration and loss of voice ensued as usual. One day after, when I saw her, respiration was comfortable, voice only a whisper, but swallowed milk with comparative ease.

On the 15th bur was visible in pouch, on right cord. Tried to remove it under cocaine but failed, so sent patient to the hospital, where she was carefully watched and emetics of hot water and mustard were ordered, with soothing applications. The bur was expelled on the fourth day, covered with lymph. Specimen exhibited. Recovery of voice was complete in less than a month.

CASE IV.—January 24, 1891, Norman I——, aged nine, Walterboro, S. C., was sent to me by Dr. C. H. Brown Lee. Three days before, while playing with bur in mouth, suddenly inhaled it. The usual symptoms ensued. Dr. Lee attempted to get it out. Loss of voice soon followed. On the 24th, when I examined him, the cords were intensely congested, but their action was normal, and I failed to detect any foreign body. Concluding that it had been expelled or swallowed, the child was sent home and given a soothing expectorant mixture, and told to gargle with hot water.

Recovery took place in a few weeks and voice returned.

In addition to the above, I take the liberty of referring to two cases reported by Dr. John E. Pendleton, of Hartford, Ky., in the "Transactions of the Southern Surgical and Gynecological Association," vol. iii.

In the first a young man accidentally inhaled a cocklebur, and a sudden inspiration carried it into the windpipe. When the doctor saw him, two hours after, he was in a terrible condition, countenance anxious, pulse rapid, respiration labored, and aphony complete. Tracheotomy was proposed, but the mother refused to consent. After three months of dreadful suffering, with hectic fever, night-sweats, purulent expectoration, and extreme emaciation, he coughed up the bur and recovered.

In the second, a young man consulted him with a bur in his trachea He refused tracheotomy, went home, and had a similar experience to that of the preceding case, except that the bur was not expelled for five and a half months from the time it was inhaled.

These are the only cases of this peculiar kind of foreign body invading the air-passages I have seen or heard of. It would appear that in the larynx they are expelled soon and give comparatively little trouble. In the trachea they remain a long time and cause an endless chain of difficulties, sufferings, and complications.

70 HASELL STREET.

THE KNEE-JERK.

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THAT the knee-jerk is a symptom of great importance none now doubts. Its presence in normal or exaggerated degree, or its absence, requires at the hands of every clinical observer due consideration. Since the knee-jerk was first noticed, there have been many theories advanced to explain its nature. It has been held by some to be purely of muscular origin. This, however, no one now entertains. Then, again, it has been regarded as of spinal origin exclusively. This, in man, has also been greatly discredited by careful investigations made on cases of increase and loss of this phenomenon. Then there are those who regard it as of spinal origin—that the spinal centres are under the control of the cerebrum in such a way that the jerk is inhibited by it; when by injury or disease the brain loses its control over the spinal centres, these latter act with undue energy, and the jerk becomes, in consequence, an exaggerated one. There are those, again, headed by J. Hughlings Jackson, who regard the energy as coming from the cerebellum in the first place, and stimulating the spinal centres, and that these latter are inhibited by the cerebrum. To each of these views I shall direct some remarks during the course of this article.

That the knee-jerk does not depend upon the spinal centres alone, the careful analysis of cases seems to show clearly. If neither the cerebrum nor the cerebellum supplied an energy or influx of force to the spinal cord for the purpose, then, when the cord becomes separated from them, we would still find the knee-jerk intact. Indeed, according to many, if the lumbar enlargement remains uninjured, the knee-jerk must be present in greater degree than before the separation took place. Is this in accordance with facts?

In one case, a boy, seventeen years of age, there was a very sharp angular curvature at the fourth dorsal vertebra. At first the knee-jerk was exaggerated, but later on it gradually disappeared, and finally became wholly extinct. There was no atrophy, beyond that of disuse, in the muscle dependent upon the lower part of the cord; nor was there reaction of degeneration. There were both complete paralysis and anæsthesia. The patient died of pulmonary phthisis. The autopsy revealed the important facts that the cord was completely pulpified at the situation of the curvature, and that there was no coincident softening of the lumbar enlargement.

Another case bearing upon this point is one of fracture dislocation. The displacement was between the second and third dorsal vertebræ. The knee-jerk at once disappeared, and remained absent for eighteen months. The bladder reflex was fairly good. The lumbar enlargement was normal in every respect, except the descending degeneration found in the pyramidal tracts. There was no muscular atrophy, nor reaction of degeneration. The patient was annoyed with erections. There was no rigidity or spastic condition of the legs.

In another case of dislocation of the sixth and seventh cervical vertebræ there was absolutely no knee-jerk. None ever appeared, though the patient lived for nearly five weeks—a time quite sufficient to cause the jerk to appear, if due to degeneration merely in the pyramidal tracts. The bladder acted fairly. There were erections. No reaction of degeneration or atrophy. The cord was thoroughly pulpified and destroyed. In these three cases there was no ankle clonus.

In the above cases it is very clear that the cord was completely severed from both cerebrum and cerebellum. If the knee-jerk and ankle clonus depend upon the spinal cord, and are only inhibited by the brain, then these phenomena would have been increased in these cases. But we find that such was not the case. When the cerebrum and cerebellum were detached from the cord, the latter in itself did not possess the power of maintaining

the muscular tone upon which the knee-jerk and ankle clonus depend. It becomes very patent the knee-jerk is something more than a spinal reflex.

When we turn to a class of cases with which all are familiar, namely, those where the cerebral influence on the spinal cord has been lost through disease or injury (it matters not whether by a hemorrhage, an embolism, a primary sclerosis, or a blow on the head) the effects are the same—the inhibitory control of the cerebrum is removed, and, as a consequence, the spinal centres, let loose from this inhibition, act overmuch, and there are both exaggerated knee-jerk and ankle clonus. We have just seen, however, that where both cerebrum and cerebellum are cut off from the spinal centres no such state of things exists.

It is not necessary to record cases in this group, as they are so common and well known. One, however, may be of interest. A lady, aged fifty-two years, had an attack of hemiplegia affecting the right arm and leg, with marked increase in the knee-jerk. Just thirteen years afterward she had a second attack, affecting the left arm and leg, with hemianopsia. Six weeks after the attack there was great increase in the knee-jerk, even rectus clonus. The loss of sensation was complete, and the paralysis of the fullest possible extent. Here is a case where all cerebral influence was withdrawn from the left side, and yet the tone of the muscles still continued, and the knee-jerk was greatly increased. Certainly the source of energy to the spinal centres is not of cerebral origin.

In his valuable work on nervous diseases, while speaking of tumors of the cerebellum, W. R. Gowers remarks that, "in the same cases the knee-jerk cannot be obtained; its loss is usually constant; a slight movement can be elicited at times, and at times none. We are not at present able to explain this curious symptom" (page 717, American edition). I think this can be readily explained when we look in the right direction. That the reflex at the knee depends on the myotatic irritability there is no doubt. It seems equally clear that this irritability is necessarily associated with the normal healthy condition of the nervous arc of afferent and efferent fibres connected with each other in the spinal cord. But, while this is true, we have seen that there is something more needed than this purely spinal arc. We have the true explanation in the cerebellum.

On this subject Charlton Bastian has done most excellent work. That his ground has been well taken experience will prove. He has for some time advocated that if there be a total transverse lesion of the cord above the lumbar enlargement there will not be any knee-jerk. Now I have just recorded three such cases. The lesion was complete, and the absence of the knee-jerk was just as complete. I have also called attention to that group of cases where cerebral influence is cut off, with the result of increasing the knee-jerk. I shall now mention two cases of cerebellar disease, with complete loss of this phenomenon.

The first case was that of a man, forty-five years of age, who had suffered for some time with severe occipital headache. He had marked cerebellar titubation. The diagnosis of cerebellar tumor was made. He went to Edinburgh and consulted, I think, Sir P. H. Watson, who thought also that there was a tumor in the cerebellum. This was confirmed after death. The point of interest in this case, so far as this paper is concerned, is the fact that the knee-jerk gradually disappeared, and, for at least six months prior to death, could not be obtained on any occasion, by any method of testing. The tumor was tubercular.

The second case, a girl aged eleven, was diagnosed to have a cerebellar tumor. There was pain, vertigo, vomiting, titubation, mental failure, and difficult articulation. The urine was 1.031, contained some sugar, but no albumin. The knee-jerk was absolutely abolished. There was no ankle clonus. The bladder and rectum were impaired, but not to a marked extent. The autopsy showed the existence of a glioma in the cerebellum, involving the left hemisphere and middle lobe completely, and the right hemisphere to about one-half its size.

These two cases go to show most conclusively that Hughlings Jackson is right when he contends that the knee-jerk and muscular rigidity is due to "cerebellar influx." In the three cases of transverse lesion in the cord, recorded in this paper, this influx was cut off from the cord below the lesion, and consequently there was neither knee-jerk, ankle clonus, nor muscular rigidity. In the two cases of tumor in the cerebellum the power of the cerebellum to influence the lower spinal centres was destroyed through the existence of the tumors. We may therefore safely infer that the integrity of the cerebellum and its healthy connection with the spinal centres are the real causes of the deep reflexes. This throws a flood of light on another question, namely, that the cerebellum has much to do with the maintenance of the equilibrium of the body by means of muscular efforts put forth in accordance with visual, auditory, and tactile sensations.

The truth of these views is of very great importance. In the case of a transverse lesion of the cord, above the lumbar enlargement, they would prove that the injury was a complete one. Or, to put the question in another form, if there were an injury to the spinal cord, and that, after the shock had passed off, there were absence of knee-jerk, ankle clonus, and muscular rigidity, the injury may be taken as a complete one. Further, if there be loss of the knee-jerk, and deficiency of muscular tone, while there are no evidences of disease in the spinal cord, our attention should at once be directed to the cerebellum, as it has been just shown that these symptoms may be lost through disease in this organ. They have an important bearing on prognosis. Grant that there is an injury to the cord, and that there is neither knee jerk nor ankle clonus, the prognosis is very bad, because the cord must be thoroughly crushed or pulpified. Operative treatment in such a case would be contraindicated.

In the exaggerated knee jerk that follows epilepsy we see this same principle upheld. The cerebral cortex is exhausted by the discharge, and as a result does not inhibit the spinal action, which becomes excessive from the cerebellar influx. Elsewhere I have given an account of four cases of procursive epilepsy. In one of these cases I had a good opportunity of testing the condition of the knee-jerk. There was not any past epileptic increase. This fact, along with others, led me to suspect that procursive epilepsy is due to a discharge, beginning in the cerebellum, and causing the procursion, along with derangements of equilibrium, and the absence of the knee-jerk, instead of its increase after the attack. The discharge in the cerebellum causes its exhaustion, so that the spinal cord does not receive the influx from this source, while the cerebrum goes on inhibiting all that the easier. When the discharge is cerebral, inhibition is weakened and the reflex increased; when the discharge is in the cerebellum, the influx is weakened and the reflex lost.

Prescriptions and Chirography. — Physicians have always enjoyed the reputation of writing the most illegible hands of all bodies of business or professional men, and many stories are current of meaningless scrawls being presented to drug-stores and being filled as prescriptions. But a change is coming, at least a beginning of a change has been made, for in Austria the Minister of the Interior has ordered that hereafter physicians must write their prescriptions in a legible hand, and must add thereto clear and explicit directions as to how and when the medicine is to be taken.

Attempt to Kill a Doctor.—A physician in Versailles, Ky., was rudely awakened the other night by the explosion of a bomb, which had been placed against a door of his office. The building was nearly destroyed, but fortunately the physician and the other inmates escaped with slight injuries.

THE OPERATION OF GRATTAGE FOR TRACHOMA.

By W. B. MARPLE, M.D.,

NEW YORK.

For some time past ophthalmologists the world over have been endeavoring to find a method of treatment for trachoma which would result in a more speedy cure than methods already employed. With this end in view Professor Sattler, of Prague and Leipsic, has curetted the trachomatous conjunctival surface; Professor Galezowski, of Paris, has excised the forming fold; various devices as those of Professor Noyes and Professor Knapp, for squeezing out the contents of the trachomatous follicles, have been employed; and more recently what is known in Paris as grattage has been employed, possibly more frequently by Professor Abadie's assistant, Dr. Darier, to whose kindness and courtesy in facilitating his study of the operation and its results the writer is especially indebted.

Without endeavoring to institute a comparison between the relative merits of these different forms of treatment, other than to observe that the method under discussion seems to be applicable to a greater variety of cases than the others mentioned above, the writer ventures to describe somewhat in detail this "grattage," which is a more or less extensive scarification of the trachomatous surface of the lids. This scarification was used in trachoma many years ago and subsequently abandoned. As at present employed, however, it is combined with a vigorous scrubbing of the scarified conjunctival surface with a solution of sublimate 1 to 500.

The simple instillation of cocaine is insufficient to control the pain, which is apt to be quite severe. It is, therefore, much better to etherize the patient.

Technique.—Complete eversion of the lid, so that the most distant portion of the forming conjunctivæ is brought plainly into view, is essential to the success of the operation. This eversion is accomplished by grasping the edge of the lid with a pair of catch dressing-forceps, the blades running along the edge of the lid, and then turning the forceps in their own axis, thus rolling or folding the lid outward around the forceps until the most distant portion of the forming is in full view. If the palpebral fissure is very narrow, it is of advantage as a preliminary to enlarge this by an external canthotomy. If necessary the lower lid may be drawn down out of the way by a lid-retractor in the hands of an assistant. Then with a small sharp scalpel, or Desmarre's scarificator (some employ a scarificator with two or three parallel blades), the trachomatous surface is scarified by numerous incisions close together and parallel to the margin of the lid. A few incisions are then made at right angles to the first, and then this bleeding surface is thoroughly scrubbed with a stiff tooth-brush dipped into a sublimate solution 1 to 500. The scrubbing is somewhat vigorous, and is repeated two or three times, the brush being repeatedly moistened afresh by dipping in the solution. Then the lid is, so to speak, untwisted by turning the forceps back, thus allowing the scarified surface to slip back out of sight and bringing into view a fresh portion of conjunctiva or trachomatous surface nearer the margin of the lid. This is scarified in like manner, and subsequently brushed with sublimate, and so on till the whole of the affected lid has been treated in like manner. Then we proceed in the same way with the lower lid, and then with the other eye according to the necessities of the case. After cleansing the eyes a plaque of gauze moistened with sublimate solution 1 to 2,000 is laid over the lids, covered with absorbent cotton, and a bandage is applied. The latter is usually removed permanently on the following day.

Subsequent Treatment.—Beginning the second or third day after the operation (depending on the amount of reaction), the lids are daily everted carefully and washed with a pledget of absorbent cotton dipped in sublimate solution 1 to 500, rubbing the surface sufficiently to remove all discharge and membranous shreds. The cases are allowed to leave the hospital usually in four to six days, returning daily as out-patients to the clinic for from four to six weeks. After three or four weeks, if there is still considerable discharge, a solution of nitrate of silver (5 gr. ʒ j.) is substituted for the sublimate and brushed over the conjunctival surface. In the majority of cases no futher treatment is employed after six to eight weeks and the patient is discharged cured.

Reaction.—The amount of reaction following the operation varies considerably. Of course, there is some swelling of the lids for several days, and not infrequently some subcutaneous ecchymosis of the lids. Occasionally considerable œdema is observed, which subsides in a few days without any special treatment, though ice applications may be employed. At the end of eight or ten days. and often sooner, the external appearance of the lids is about as it was before the operation, while the characteristic rough granular appearance of the conjunctiva becomes rapidly more and more smooth.

Extent of Scarification.—The extent of the scarification will be determined by the amount of the trachomatous swelling. Over the forming portion, when the swelling is apt to be considerable, the scarifying will be extensive, incisions close together and deeper; on the other hand, over the tarsus, especially of the lower lid, there may be very slight, or even no trachomatous swelling, requiring accordingly slight or no scarification. The judgment and experience of the operator will decide this.

As an adjunct to the scarification, where there is much vascular pannus the loop of vessels may with advantage be divided just outside of the corneal margin by the point of the galvano cautery. This may expedite the clearing up of the cornea, though it is not essential.

To decide whether the treatment is followed by much scar-tissue on shrinking it will be necessary to observe the cases for a longer period. Aside from this consideration, the results in rapid return of the conjunctiva to a comparatively healthy condition, the clearing up of corneal opacities, pannus, etc., are certainly remarkable, and the method is well deserving of a more extended trial.

A number of cases have been recently operated on in this manner, at the New York Eye and Ear Infirmary, Dr. John E. Weeks.

The operation has been employed now for some time, in Paris, by Professor Abadie and assistant, Dr. Darier, Professor Panas, Professor Wecker, and others.

Note.—To show that the above treatment gives as gratifying results in New York as in Paris, brief notes of two cases seen during the past week by the writer are appended. The history of the two cases is given by the kind permission of Dr. Weeks in the first case, and of Dr. Gruening in the second.

No. 1.—Girl, aged eighteen. Marked trachoma of two years' standing of the left eye, with considerable discharge.

August 8th. Grattage under ether. Patient treated as an out-patient at the New York Eye and Ear Infirmary, returning home after recovering from the effects of the ether. But slight reaction.

August 15th. No sign of trachoma.

August 19th. Patient ceased coming to clinic, as lids were smooth. No discharge.

October 10th she appeared at the clinic of the New York Eye and Ear Infirmary, showing a result as nearly perfect as one often sees. Nothing about eyes would indicate that anything had ever been the matter with them. No sign of any scars at all, and lids smooth and pliable.

No. 2.—Boy, aged thirteen. Has had trachoma, and for two years past corneæ were so opaque and photophobia so great that boy could not see to go alone. Before operation condition was deplorable. On account of corneal opacity no iris could be seen. In last week of September grattage was done by Dr. Gruening at Mount

Sinai Hospital. Two weeks subsequently no photophobia, lids becoming rapidly smooth. But the change in condition of the cornea is most surprising. This has cleared so that iris and pupil can be readily seen, and boy now sees to go around without difficulty. A few nebulous maculæ still left in cornea, which are becoming rapidly less. Improvement continues from day to day.

These were both chronic cases of over two years' standing.

29 West Thirty-first Street, October 20, 1891.

Progress of Medical Science.

Pseudo-Tuberculosis.— Professor Hayem reports this case: The patient was a youth, seventeen years of age, without any hereditary history of tubercle, who had had typhoid fever at the age of thirteen. For several months prior to coming under observation a slight bronzing of the skin was noticed. This was followed by general malaise, with vomiting and all the signs of a febrile gastric affection. The temperature remained raised for several days, and then dropped. The patient then appeared to fall into collapse. The extremities were cold, temperature subnormal, and he complained of vague muscular pains and extreme weakness. A diagnosis of gastro-enteritis was made, but no cause could be discovered. The tongue was pale and furred; vomiting became more frequent; there was great thirst; the stools were normal, but sometimes diarrhœa occurred. Liver, spleen, and lungs normal; cerebral symptoms absent. The patient eventually died of cardiac collapse. Owing to the increase in the bronzing of the skin the diagnosis of Addison's disease was finally made.

At the autopsy the right suprarenal body was normal, but the left was found to be transformed into a grayish mass; the glands of the neighborhood were normal The grayish mass was softened in the centre, which was surrounded by round cells. No tubercular nodules could be seen, giant-cells were absent, and the search for tubercle bacilli was unsuccessful; but, on the other hand, the bacilli of pseudo-tuberculosis were found. The stomach was normal. The intestines were somewhat inflamed, especially around Peyer's patches. The follicles, both isolated and agminated, were enlarged, and in them the characteristic bacilli were found; the blood also contained them. The lungs were normal. Cultures made from the blood, the intestine, and all the abdominal organs produced similar bacilli to those obtained from animals which had died of pseudo-tuberculosis. Inoculation made on animals from the cultures produced the disease. This is characterized by the formation, especially in the abdominal organs, of a condition which to the naked eye is precisely similar to miliary tubercle. Small nodules are formed, which under the microscope are seen to consist of collections of small round cells, surrounded by cells more epithelial in character; giant-cells are rare. The bacilli are extremely difficult to stain in the tissues, but cultures are easily made. The organism grows well on all the ordinary media, especially nutrient gelatine. In forty-eight hours at the ordinary temperature a luxuriant growth results. The bacilli are short, thick rods, appearing at first sight almost like diplococci. Under a high power, however, the rod formation is undoubted. The bacilli exhibit a great tendency to run together into rods; in fact, some authors have declared that the organism is polymorphous. Animals inoculated with the fresh culture die in from ten to fourteen days. Intra-venous injections produce death in about forty-eight hours, without the formation of the characteristic lesions.—*Revue Générale de Clinique et de Thérapeutique.*

Mercury in Typhoid Fever.—From a clinical experience embracing nearly seven hundred cases of typhoid fever, Dr. Smakovsky concludes that the simplest and most efficacious treatment consists in the administration of calomel in fractional doses, according to the method of Professor Zacharine, of Moscow. Three-fourths of a grain of calomel is given every hour for ten doses, if necessary, or till copious, soft, greenish stools have been secured, a gargle of chlorate of potash being meanwhile used to prevent stomatitis. In cases in which cardiac weakness already exists, an infusion of digitalis is used before the calomel. If instituted in the course of the first seven days of the fever, this treatment is said to abort the disease, even when grave in type. If this result is not obtained, the drug exercises the most favorable action in shortening the duration of the disease and preventing complications. A second course of calomel may be given a day's interval after the first, the abortive action being produced sometimes only after this second administration. During the interval, and subsequently, if the disease is not aborted, the author prescribes:

℞. Subnitrate of bismuth ..... 2½ grains.
Pure naphthalin ..... $\frac{1}{10}$ grain.
Sulphate of quinine ..... 1½ grain.
Sig.: One powder. Four of these daily.

The author is convinced that the mortality should be *nil* in all cases where the treatment is commenced before the tenth day of the disease, excepting with the very old, or where it occurs in the course of another grave malady.—*University Medical Magazine.*

The Value of Polyadenitis in the Diagnosis of Tuberculosis in Children.—Mirinescu, in a carefully prepared paper on this subject, refers to the fact that positive signs of tuberculosis in infants and young children are lacking, and we are frequently obliged to make a diagnosis of probability even when the disease is well advanced. When active inflammation complicates the tubercular process the diagnosis becomes at times impossible. It is impossible to distinguish a simple from a tubercular broncho-pneumonia by physical signs alone. The diagnosis of abdominal tuberculosis is equally difficult, especially in the earlier stages. A diarrhœa in an ill-nourished child may be simple and due to bad feeding, or it may be due to tuberculosis. The physician who is guided by local symptoms only exposes himself to the danger of making grave errors. It is only by a thorough examination of the whole body that anything like a positive diagnosis can be reached, and every symptom and sign must be taken into consideration. Some years ago Hutinel observed that the majority of children in a hospital presenting symptoms of tuberculosis also had general adenitis, and he regarded this as a sign of considerable value. Legroux has also pointed out the fact that these enlarged glands are tubercular in character. Children predisposed to tuberculosis are very frequently pale, anæmic, and subject to alternate constipation and diarrhœa, with variable appetite. The skin is flabby and evidences of bronchitis are usually present. Groups or chains of small glands may be felt just beneath the skin in the groin, the armpit, and the cervical region under the jaw or behind the ear. They are hard, and upon palpation give the sensation of lead-shot under the skin, being movable and free from adhesions. They are peculiar in two respects: 1. They are so widely distributed as to form a general adenitis, and are found in regions where there is no other trace of tubercular involvement. 2. They never change in size or consistence. In most of the cases presenting this condition, examination has revealed other lesions and tubercular bacilli in abundance. It cannot, however, be positively said that every child presenting this general adenitis is tuberculous, but with other symptoms, even if vague, its presence is very strong evidence of tuberculosis. Children frequently become tuberculous slowly, showing little evidence of the disease except by a general poor condition and disease of the lymphatic system. Suddenly a bronchitis or whooping-cough develops, to be followed by broncho-pneumonia, from which the child dies. The autopsy reveals tubercular lesions of long standing. General adenitis in syphilis is rare, and appears to be due

to cutaneous lesions. In impetigo, adenitis appears suddenly in the vicinity of the eruption. If the impetigo is not cured the glands rapidly enlarge, and may even go on to suppuration. Adenitis may be classed in four groups: *a.* Presents no evidence of tuberculosis to the naked eye. *b.* Evidently tubercular; of the size of a small pea. *c.* Caseous; of the size of a walnut. *a.* Shows small caseous spots; of the size of a millet-seed. Microscopical examination of these different forms shows their mode of formation, which is described by the author at considerable length.—*New York Medical Journal.*

Modified Phenylhydrazin Test for Sugar.—The phenylhydrazin test for sugar in the urine is not altogether satisfactory, as it sometimes gives yellow crystals in the absence of sugar, and then again it sometimes fails to detect sugar when it is present. Dr. Havelburg, of Rio de Janeiro, has suggested a modification of this test which he claims gives trustworthy results, and which is of easy application. About twenty grains of hydrochlorate of phenylhydrazin, and about thirty grains of acetate of sodium, are placed in a test-tube. This is filled almost half full of water and slightly warmed. An equal volume of urine is then added, and finally a small quantity of chloroform, and the whole shaken up together. The test-tube is now set aside, when the chloroform soon settles to the bottom, and, if sugar be present, a layer of fluid containing canary-yellow crystals forms just above the chloroform. By removing the crystals with a pipette and subjecting them to the microscope, they are seen to consist of yellow needles, often in groups, radiating from a central point. If there be a moderate amount of sugar present, the yellow zone is quite visible to the naked eye. The reaction is said to be more marked if the fluid is boiled before the chloroform is added, but in this case care must be taken to allow it to cool again, for if the chloroform is added while hot an explosion might occur. This test is extremely delicate, and shows the presence of sugar where Fehling's test has failed.—*Centralblatt für klin. Med.*

Clinical Department.

OLIVE-OIL AND GALL-STONES.

By DAVID Y. WINSTON, M.D.,

RUSSELLVILLE, KY.

In the issue of the MEDICAL RECORD of October 24th, I see an editorial giving the results of an analysis of fifty-four cases of biliary colic by Drs. Mays and Bloom, of Philadelphia. The editor does not seem to have much faith in the oil, nor do I think a careful look into these cases would justify much faith. Physicians are apt to mistake the bodies passed after taking the oil for gall-stones, or to accept the word of the patient or family as to the fact.

In fifty-one cases they think there were favorable results from its use. I will simply give my own experience with it, and cases that have fallen under my observation. In the first place, sweet oil taken in large quantities (one pint to one quart in twenty-four hours), sometimes will, sometimes will not, cause an evacuation of globular, greenish, or dark bodies, resembling gall-stones. Some of these are so hard as to give a sound on striking the bottom of the chamber, when ejected forcibly; others are of less consistency. These bodies are fatty in nature and probably colored with the bile itself, or its coloring matter.

After the writer took (within the space of two hours) one pint of pure olive-oil, there was no effect, no disturbance of stomach or bowels, nor any "gall-stones."

At another time, a like quantity brought a considerable (twelve or fifteen) number, with no other symptom than a little gastro-intestinal disturbance. I believe their appearance or not is due to whether or not the digestive organs are incapable, or capable, of properly assimilating the oil. Large amounts would therefore be more likely to cause this formation in a healthy man. That they were oily there is no doubt, for they melted enough to grease paper on moderately warming, completely on stronger heat, burnt like oil, were greasy to touch, and were freely soluble in ether.

One case came under my observation not long since, in which the woman for several years has had attacks like the passage of gall-stones, but no stone has ever been found in the passages, though searched for by her physician. Nothing but morphine and atropine given hypodermically in full doses gave ease, the attacks lasted from a few hours to a day or more. No physical signs give evidence as to its nature, there being no jaundice nor enlargement of gall-bladder perceptible. At the suggestion of outsiders she took sweet oil in large quantities. The next day she passed a number of bodies precisely like those I have described, some as large almost as a pigeon's egg, some smaller. The passage was attended with pain, griping, etc., and she had a slight diarrhœa following. The bodies passed were physically and chemically, as far as I could tell, identical with those first described, and a little harder than wax when cold.

She thought she was better for a while, but had other attacks and repeated the oil with same results. She is, however, now, in spite of oil taken on several occasions, just as bad off as before taking a dose. Another case, almost similar, has also been observed. The woman had an attack (the first and only one) which was diagnosed gall-stone passing along duct. Here the oil was given by the physician, also anodynes were administered. The oily bodies were passed, she got easy, and was said to have passed a number of stones, and olive oil was praised as the great specific. On examination they proved to be nothing but "oil-stones."

Ease of pain occurred when the opiate had taken effect, and was attributed to the oil. I have examined the "stones" brought by several physicians after the administration of oil, and have in no instance found a single true stone. Some of the patients were, some were not, afterward troubled with attacks, but as this freedom from attacks seemed to be no more common than seen where oil was not used, no deductions could be drawn showing its benefit. If the oil is a cholagogue, given in continuous small doses it might act as a preventive, or during an attack, as any other bile-stimulating drug, help force the stone along the duct. Otherwise from this, I fail to see how it can do the least good, nor do I think the testimony given by careful men will be in its favor.

PEROXIDE OF HYDROGEN IN TYPHOID FEVER.

By F. H. WIGGIN, M.D.,

NEW YORK.

HAVING had good results in using peroxide of hydrogen locally in diphtheria and tonsillitis, and in infected wounds, it occurred to me, when a case of typhoid fever came under my care, during my summer practice, that this remedy might be beneficial, it being the most powerful non-poisonous germicide we possess. On August 24th I was called to see Abby M——, who gave a history of having been ill for a week with fever and diarrhœa. On examination I found a characteristic case of typhoid fever, with temperature 104½° F.; pulse, 130; sore spots, abdominal pain, tympanites, diarrhœa, and mild delirium. I prescribed one ounce of fifteen-volume peroxide of hydrogen to eight ounces of water, to be taken every three hours, by the mouth. On the following day I found the patient more comfortable; temperature, 103° F.; pulse, 112; had had only two movements during the twenty-four hours; less delirium and less pain in head. On the

26th had had one movement; temperature, 102° F.; pulse, 104; less tenderness in abdomen, and pain in head diminishing. On the 27th, temperature, 100½° F.; pulse, 98; no movement, tympanites disappeared, and head, though still weak, clearer. On the 29th, temperature, 99½° F.; no movement. On the 30th, temperature normal; pulse, 84; formed movement. The case now went on uninterruptedly to recovery, with nothing further of interest to report. On the 9th of September I discontinued my visits, the patient being discharged cured, though weak.

One swallow does not make a summer, but I report this case, hoping that someone who has larger opportunities for treating typhoid fever may take up the suggestion and let the result be known. The remedy is perfectly harmless, easy to take, and apparently was of very great value in this case.

THE WEAK LEFT KIDNEY.

By T. J. HUTTON, M.D.,

ST. PAUL, MINN.

It is not stating a news-item to say that some parts of the human body are anatomically and functionally feebler than others: for example, the various hernial sites are acknowledged weak points. Indeed, in the dexter-handed the entire left side of the body is less developed than the right side; and what is true of the left side as a whole may also be true of its various parts. Of some of its parts it is already admitted to be true; accident indemnity companies pay more for the loss of a right limb than for the loss of a left, based upon its greater usefulness. Their rule is to pay $2,500 for the loss of a right hand and $1,500 for the loss of a left hand. The earlier editions of "Gray's Anatomy" used to harp on the absence of valves in the left external saphenous vein, which condition in scurvy and kindred ailments, attended by hydræmia, stasis, and effusion, induced a soggy swelling in the anterior aspect of the left thigh. In Russia they give this swelling a distinct name, as though it constituted a distinct disease. This swelling never occurs on the right side.

The object of this paper is, not to advance the theory that the left kidney is feebler than the right one, but to adduce ample proof, anatomical and clinical, that such is the fact; and that in the entire field of medicine no fact is more obvious. As to anatomical peculiarities there are none in the kidney itself, but there are several in its vascular outlet which may and do injuriously affect the kidney itself.

Anatomical peculiarities of the left renal vein are: 1. The left renal vein is longer than the right. 2. It passes in front of the aorta. 3. It receives the left spermatic, the left inferior phrenic, and generally the left supra-renal veins. 4. It opens into the vena cava a little higher than the right.

Each of these peculiarities of the left renal vein—that it is longer than the right; that it passes in front of the aorta, which the right does not; that it receives several other veins which the right does not, and that it enters the vena cava higher than the right—renders the left kidney more liable to obstruction than the right.

The clinical peculiarities of the left kidney are: 1. Excepting the single symptom of belly-ache, which afflicted Mr. Stiggins so much, and which, in the language of sister Hemans, has not only all seasons but all persons for its own, perhaps no symptom is more frequently met with than pains and aches in the left side and left lumbar region, or, in other words, in the region of the left kidney. 2. Every experienced practitioner must have observed that congestion of the left kidney occurs much more frequently than congestion of the right kidney or of both kidneys. For emphasis, not exactness, let us say it occurs twenty times as often in the left as in both. 3. Practitioners who observe closely will have noticed that the frequency with which inflammation, and its somewhat frequent sequel, abscess, occurs in the left kidney as compared to the right, or to both, is in about the same ratio. 4. Such will have also observed that tumors, commonly a result of congestion or obstruction, occur more frequently in the left kidney than in the right.

About four years ago I first took up this study of the left kidney. It came about in this wise: A practitioner up the Hudson diagnosed congestion of left kidney in the case of Henry Ward Beecher, who had been taken suddenly ill at his country home. A city editor referring to this diagnosis threw a handful of exclamation points after it, in derision, in his journal. I have pursued this study attentively since and find this lesion of frequent occurrence—one of the most frequent ailments of the human body.

About three years ago a patient, a man aged about fifty-five, came to me with matter flowing copiously from the left side of the scrotum, the pus being generated in and the result of abscess of the left kidney. In eight weeks' practice last summer I saw seven cases of disease of the left kidney, one having resulted in abscess, the right kidney being apparently normal in all these instances.

MATERNAL IMPRESSIONS.

By F. C. HERR, M.D.,

OTTAWA, KAN.

Apropos of the discussion in the Medical Record, I wish to contribute my mite in support of the theory of "Maternal Impressions." In point of fact, however, it is no longer a theory that the mother may transmit, not only mental characteristics to her progeny, but physical impressions as well. It is matter of common knowledge that young married women looking forward with ardent pride to prospective motherhood, will keep themselves impressed with ideal faces by decorating the bed chamber walls with pictures of handsome children. I am quite sure I have seen a striking resemblance between the children of these mothers and the object of their admiration.

But two most remarkable cases—one quite recent—have come to my knowledge, and I desire to record them. The recent one occurred in this city. A lady—six weeks advanced in pregnancy—was sued before a justice of the peace by her servant girl for non-payment of wages. The lady received a notice to appear at the office of the justice. This was new experience to her, and as she herself stated, it almost frightened her to death. She went. The justice, whom I know, has a cleft palate. His articulation is most difficult to understand, and his manner of speech, when you do not know him, rather repulsive.

After returning home from his office for weeks this experience was on her mind, and she said she could hear the squire talk all the time. A child was born to her, and the physical conformation of the palate, arches, and roof of the mouth was the counterpart of that of the justice.

The second case is even more interesting and remarkable. The husband of a lady who was enceinte returned home from a day's fishing and brought with him a frog whose head had been much lacerated by the fish-hook catching in it. Thinking to have some sport, he placed the frog upon the floor just behind a chair occupied by his wife, and left it there for her to see. Soon she arose from her chair, turned about and beheld the frog, and fainted away. At term she gave birth to a child with a frog's head, the exact image of the one upon the floor. This is one of the most remarkable examples of maternal impression that I have knowledge of. The case occurred in the practice of Dr. George Hirsh, of Harrisburg, Pa. To him I am indebted for it.

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RACE AND DISEASE.

CERTAIN races of mankind possess greater vitality and tenacity of life than others. Pre-eminent among the vital races stands the complex Anglo-Saxon, who seeks the north pole without fear, penetrates the heart of Africa, plants business enterprises upon the equator, and carries commerce into every degree of latitude, regardless of climate. Scandinavian, Frank, and Teuton also possess a similar spiritual and physical endurance that conquers circumstance and overcomes the forces of nature. The Slav, the Latin, and the despised Turk share it in part.

Causes of disease that slay thousands of those subject to them, but who through habit lack vigor of constitution, which is always the best safeguard, pass lightly over hardier or temperate-zone races. Thus is explained the comparative immunity, during the great plague in Alexandria in 1835, of French, English, Russian, and German residents. Though exposed in the most open manner, it is said they suffered only in the proportion of five per cent., while Arabs succumbed at the rate of fifty-five per cent.; Malays, sixty-one; negroes and Nubians, eighty-four per cent. Among certain American Indians there is one death in every 26.23 inhabitants, and this not due to the cruelty of the unfeeling white man.

Among less hardy peoples, the inhabitants of the earth in whom inherent vitality is of a low order, the readiness to lie down and die upon slight provocation seems a cowardly kind of business to others trained in habits of real grit. The plucky races of mankind are determined to pull through, to fight disease as though it were an attacking enemy, to recover to please friends, spite rivals, foil foes, or complete some task as yet unfinished. Some impulses from the organs of thought and will materially affect the rest of the nervous system, the heart, and secretions. The weaker races die as easily as falling asleep, die from "pure cussedness," as the sailors say. The late surgeon of R. Y. S. Sunbeam, Bernard Hoffmeister, records interesting experiences among the natives of East Africa. Their apathetic dependence on fate, and its consequent mental and physical inertia, are best overcome by alcohol. They are so unaccustomed to its action that a very small dose produces excellent effects, puts a little energy, even a little "devilment" into the poor creatures, who, during convalescence realize that destiny insists upon their surviving. Chinese and Japanese are much better patients, for they have faith, moral courage, they want to recover, and the natural constitution is more robust.

Racial idiosyncrasies are also of interest. Africans are much less subject to dengue than others and have it lightly, yet small-pox plays sad havoc with the negro and with the Arab of the Nile region. The Aryan races of Central Asia also suffer terribly from this disease, to the extent of complete depopulation in particular valleys and islands. Measles is the cause of great devastation among insular races, especially in warm countries. It assumes, among a people incapable of resisting a panic-creating disease, a more virulent type than is known in Europe. Ethiopians stand malaria pretty well, without after effects, as a rule. Pure-blooded negroes do not have yellow fever, nor do Hindoo coolies, and the Chinese are almost exempt. African races incur greatest danger from cholera, dying off with the greatest rapidity and no effort at resistance. There is scarcely time for any treatment. Europeans in oriental countries and the Hindoos suffer similarly. Bronchial catarrh, pneumonia, and consumption are particularly fatal among native dark races in Africa and Asia. Typhoid fever off the coast of Malabar is extremely dangerous to Europeans, though the natives escape with only mild attacks. Visitors to St. Kilda or the Society Islands will start from some slight cold an epidemic of influenza among the natives. Even a cold introduced by a passing vessel runs through Ascension Island as a severe epidemic, necessitating rest in bed and active treatment for days. Recent arrivals are lightly attacked, older sojourners more severely, and the natives often dangerously. In the island of Tristan d'Acunha the effect is more virulent, leading even to fatal results. Isolation from other races—due to situation, feuds, scant means of locomotion, and to religion—has accentuated, through heredity, liability to certain forms of disease and induced distinct racial idiosyncrasy.

The perpetual superiority of native inhabitants of the temperate-zone is owing to the formative conditions there, which develop the strongest constitutions. This temperate-zone superiority becomes at last a racial peculiarity that time cannot change. Brain and brawn of such calibre have really nothing to fear. And it is not too visionary to expect for them, on purely anatomical grounds, the conquest and control of the whole world.

THE DOCTOR IN MODERN SOCIETY.

THE physician of to-day exercises more or less influence upon all the affairs of life. In a sense he is the supreme educator, for juries refuse to convict; philosophers pause before considering abnormities of will, memory, or personality; the historian waits in his description of prophet and sibyl until the medical man has spoken. It is impossible to build a house properly, bring up children aright, discipline an army, or live with structure healthily developed and function of every kind unimpeded—which is the nearest approach to happiness for anyone—without first consulting the hygienist.

The modern doctor is everywhere—in society, in politics, mixed up with fine arts, religion, and philosophy. In a little paper written for *Médecine Moderne*, Maurice de Fleury thinks the medical man has just cause to be proud of his present position. Alphonse Daudet calls him the

last priest and supreme belief. Painters and sculptors owe much to medical science. Anatomy, for instance, is the basis of their calling. The debt of novelists is even greater. The naturalist school works on quasi-scientific lines, and adopts methods common to all investigators of facts. The representatives of literature owe as much to Claude Bernard as to Balzac. This century is one of science, and among *savants* medicine occupies the first rank, because it is of wider scope and more human than any other branch. In his "Philosophical Dialogues," Ernest Rénan forecasts a social state of great splendor, in which the *savant* is king. Be the realization of this as it may, it is a significant fact that the practical needs of humanity are best known to the physician, who, in spite of himself, thus becomes a functionary of high order, invested in great degree with the welfare and happiness of the human race.

THE CONGRESS AND THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

THE American Association of Obstetricians and Gynecologists has a grievance in which there seems to be a measure of justice. When the Congress of American Physicians and Surgeons was first organized, the American Gynecological Association declined to join the confederation. The promoters of the Congress naturally desired a representation of the important subjects of obstetrics and gynecology. We are told by Dr. Adam H. Wright, in his presidential address: "After a conference, some strong friends of the Congress decided to organize a new society of obstetricians and gynecologists. A preliminary meeting of a number of prominent obstetricians and gynecologists was held in Buffalo, April 19, 1888, with that object in view, and the result was that the American Association of Obstetricians and Gynecologists was organized, not in opposition to any other society in any sense, but largely in the interest of the new Congress."

A formal application for membership in the Congress was now made. But meanwhile the American Gynecological Association had changed its mind, and also applied for admission. It was admitted, while the new Association received notice that the following resolution had been passed by the executive committee of the Congress:

"*Resolved*, That it is the sense of this Executive Committee that they will not consider the application of any society which has not held at least two annual meetings."

The Association has now held three annual meetings and published its volumes of Transactions; yet it is still informed that it cannot become a member of the Congress.

We cannot pretend to discuss the merits of the question which the new Association raises more than to say that it appears on the face of it to have been treated unjustly. On the other hand, it would be difficult for the Congress to have two associations of gynecologists in its ranks. There ought in fact to be no need of two national gynecological associations, and perhaps the wisest and most generous course would be for those now existing to unite.

ANOTHER VIEW OF CHLOR-ANÆMIA.

BEFORE a recent meeting of the Société Médical des Hopitaux, Dr. Hayem presented some excellent ideas in regard to chlor anæmia, based upon the careful study of seventy-two cases. This view displaces in part the old theory of its neurotic origin, though this might explain both the dyspepsia that is present and abnormities of the blood. The disease is primarily a condition of altered gastric chemistry, according to Dr. Hayem, which in time changes the character of the blood and induces other familiar phenomena. Upon this basis traditional therapeutics must undergo a sea-change and routine treatment take a back seat. Possibly the more modern notion of chlor-anæmia may explain the reason why the classic ton of iron fails to cure and quinine is of no avail. Of a surety, drugs in a stomach incapable of digesting them miss a brilliant destiny and become one more cause of disturbance. Upon Dr. Hayem's hypothesis, iron, arsenic, and quinine are interdicted always in the beginning of treatment. The most frequent gastric change in chlorosis is hyperpepsia. This and improper gorging with the usual drugs the learned doctor looks upon as a too frequent cause of gastric ulcer in women. When young men—also subject to the condition known as chlor-anæmia—present themselves for treatment of digestive disturbances, they are looked upon as dyspeptics or neurasthenics and thus escape the irritating effects of iron.

The dyspepsias of adolescence are as frequent in boys as in girls, and simply furnish a soil favorable to the development of chlorosis. When this disease declares itself, the dyspepsia already present is increased in severity and presents a serious obstacle to the cure of altered blood and circulatory function, especially if treatment is ill-advised and traditional. The best results are obtained by looking upon the entire abnormity as a gastro-intestinal disturbance of grave and rebellious character, and instituting a mode of treatment that includes rest, diet suited to individual peculiarity, digestive ferments, and such remedies as are capable, under the circumstances, of producing a tonic effect. These ideas are so thoroughly medical and reasonable that from the practical point of view they would seem to signalize real progress in the study and treatment of a disorder hitherto somewhat discouraging to patient and practitioner alike.

THE ABUSES OF "LOW DISPENSARIES" AND MEDICAL BENEFIT SOCIETIES.

A LONDON weekly paper has recently published a long anonymous article by a medical man, purporting to disclose a stupendous system of fraud in medical clubs and dispensaries, including medical associations, mutual benefit societies, and medical benefits attached to insurance offices.

The author asserts that he is a physician of thirty years' work, who is "now making ten shillings a week, and living in one room containing a bed, a washstand, and two chairs." The abuses, we take it, refer to the enormous amount of medical charity, and to the pitiful sums which are paid for medical services by benefit societies. Serious charges are made against medical men also. The *Lancet*, commenting upon the article, admits that there may be

some truth in it, but deprecates the anonymous way in which it is presented.

We have at various times referred to similar evils which are growing rapidly in the larger cities of this country. Their existence is generally admitted, and we presume it will not be long before some sensational journal prepares a similar article for the delectation of its readers.

The question of the remedy is the perplexing thing. In the matter of benefit societies it seems as if only a wider education and knowledge would be needed to show what an error it is, morally and economically, to engage medical services on such a plan that a physician is compelled to treat hundreds of patients for a few cents per head, giving to each only a most cursory examination and a stock prescription.

As for the dispensaries, there is developing a feeling, among the managers of the better class, that there should be discrimination in giving relief, and that their proudest annual boast should not be that they have treated so many thousands, but that a goodly number of deserving poor have been treated well.

ARSENIC POISONING AND WALL-PAPERS.

In his anniversary discourse before the New York Academy of Medicine, Professor Chandler performed a decided service to the medical profession by presenting the subject of arsenical poisoning from the sceptic's standpoint. There is no doubt that the majority of medical men, even outside of Boston, believe that chronic arsenical poisoning occurs from wall-papers, clothes, furniture, and various articles in the domestic environment. The dangers from these sources are generally admitted and described in systematic works, sanitary authorities have waxed eloquent over them, and legal restrictions have been established to prevent or lessen the possible harm.

Now, Professor Chandler thoroughly disbelieves in the reality of the dangers aforesaid. His line of argument is in the main rather negative than positive; that is to say, he throws the burden of proof upon the believers in the arsenical theory.

In this he is perfectly right, for the reason that chemical and physical facts make it *a priori* improbable that wall-paper or fabrics can be a source of poisoning. For arsenic is not volatile, and when fixed in paper or cloth can only be given off as a fine dust. In wall-papers, as made to-day and for the last twenty years, the surface is as a rule firm and glazed, and it is impossible to suppose that it can continually give off minute particles of its substance. But even supposing that wall-paper or clothes did do this a little, the amount is infinitesimal, and there is no clinical evidence to show that infinitesimal amounts of arsenic taken for a long time can poison a person. In factories where arsenious compounds are made, and in those where wall-papers are manufactured, arsenical poisoning is practically unknown.

The frequency with which arsenic is found in the urine is due simply to the enormous prevalence of this substance as an impurity in foods, medicines, waters, coal, and articles of domestic use.

The conditions which would demonstrate to a certainty that a person is poisoned with, we will say, arsenical wall-paper, have not yet been absolutely secured, and we doubt if they ever can be on human beings. If the matter were subjected to laboratory study, perhaps some absolute evidences of the arsenical idea might be produced. Let us hear of observations in which healthy animals, having been kept for a time in an unpapered room, get ill when the walls are papered with a modern moderately arsenicalized wall-paper. Let it be shown that there is arsenical dust or gas in the air, and arsenic in the tissues of the animal not due to arsenic in its food. Then we can believe in wall-paper poisoning.

THE HOUR TO EAT THE WATER MELON.

The *Medical Mirror* gives us the pleasing information that the best hour to eat water-melon is eleven o'clock A.M., or between three and four in the afternoon, or late at night. We presume that the *Mirror* will agree further that the best season of the year is summer, with humidity low and temperature high. When these conditions, thus scientifically established, are harmoniously concatenated the melon is harmless, and there is fun in St. Louis.

THE PRACTITIONER, THE CONSULTANT, AND MEDICAL CHARITY.

We have received the following letter from a prominent consultant in this city:

"Dear Sir: In connection with the subject of the abuse of medical charity, will you not allow me to say a word which is, in a measure at least, for the other side. For a good many years I have lectured and conducted a free clinic in this city. I have probably treated some patients there who could afford to pay a doctor, though I do not ever mean to do so. But let me add that for one case of this kind there are twenty in which the struggling young doctor has treated the patient until the money was gone; then, and not till then, he has sent him to a free clinic with a polite request for diagnosis and treatment. Another practice, which is more reprehensible, is this: A physician in the country gets a patient to pay his expenses to the city; he then takes this patient to a free clinic and secures advice gratis. I have known of many instances in which the physician had a long and expensive trip paid for on the ground, chiefly, that he knows the professor and can fix things so that the consultation will be free. Another variation on this interesting practice is to arrange so that the consultant's fee is, in some fashion or other, reduced, while the accompanying physician gets half.

"I would not like to convey the impression that such practices as these are the rule, for such is by no means the case. The majority of physicians, rural and urban, secure advice because they honestly want it for the patient's and their own advantage. But the abuses of medical charity have been frequently and graphically described, and always rather to the disadvantage of the teacher and conductor of the clinic. I venture therefore to present a somewhat different phase of the matter in the columns of your influential journal.

"Very respectfully, etc."

We are always ready to hear both sides of a question, and the evil, not to say dishonest, practices hinted at by our correspondent, call for strong condemnation. We

are glad to believe, as is stated, that such practices are not very common; but their infrequency is not a satisfactory excuse. We believe that the medical profession is, on the whole, greatly underpaid considering the total amount of work it does; and the physician who attempts to lessen the rate or amount of fees honestly earned does a gross injustice to his profession.

THE CORONER SYSTEM AGAIN.

It is quite time for the medical profession of this State to try again to initiate some reform in our coroner system. And it is gratifying to find that such attempt has been made. In an able paper on this subject, read before the Section on Public Health of the Academy of Medicine by Dr. Stephen Smith, the evils of the present system were portrayed and a plan for something better was set forth.

The coroner system is a relic of the past, and should become as obsolete as it is ancient. Aside from its practical deficiencies, and the political corruption which has been associated with its history, it has, as Dr. Smith says, an inherent defect.

The coroner's duties require the exercise of two important functions—one as medical examiner, and the other as a judicial examiner. The two functions should properly be represented by two persons.

It should be the duty of the medical examiner to ascertain accurately the cause of each sudden death, and if a crime has been committed it becomes the duty of the judicial examiner to hunt up the perpetrator of the crime. An improvement on the existing system of coroner's inquests would be made if the duty and power of investigation were left with the Board of Health, which is the proper repository of all vital statistics. The chief of the Board of Health, of course, should be a thoroughly competent physician, and he should have competent aides, to be known as medical examiners.

If, after careful investigation into the cause of a sudden death, these medical examiners find traces of criminality, then the case should be handed over to the Police Justice. Every small town has a health board and a police magistrate, so that this system could apply all over the State, the local boards being subordinate to the State board. Experience had proved, said Dr. Smith, that the health physician is more competent than the average coroner in investigating cases of death. Frequently the coroner is a disgracefully ignorant and incompetent man. Coroners' juries should be abolished.

In the discussion on the subject after the reading of the paper, Dr. Philip Donlin defended the present system. His chief arguments were, that no change could be made without great expense, that the present coroners now had as aides "medical men who were held in high esteem by most eminent physicians," and that they did a great deal of work. He admitted that there ought to be more coroner's physicians and better facilities for doing work.

Despite all that was or could be said, however, we believe that there is a deep-seated conviction among medical men—a conviction founded on personal experience—that the coroner system is essentially a bad one. We trust that Dr. Smith's effort to start a reform will prove successful.

News of the Week.

The Medical Library of the Late Dr. Fordyce Barker is now in the possession of the New York Academy of Medicine. It embraces some rare and interesting works. Portfolios of exceedingly valuable plates, lithographed and in crayons, on gynecological subjects form an interesting part of the library, which is unusually rich in full sets of serial publications, many of which have been out of print for a number of years. There are about six hundred monographs and pamphlets on medical subjects, most of which bear the autograph signatures of the authors, and cover not only the entire field of medicine and surgery, but also science in all its branches. Among the rare works long since out of print the following are the most precious: "Childbirth," James Gillemeau, London, 1612; "Birth of Mankind," London, 1634; "L'Idée et le Triomphe de la Vraie Médecine," M. Callot, Paris, 1742; "Essay on Improvement of Midwifery," London, 1733; "La Manière de Nourrir les Enfants à la Mammelle," Scevale de Sainte Marthe, Paris, 1698; "Manual of Practical Midwifery," James Reid, London, 1836.

Another Midwifery Dispensary.—Mrs. C. P. Huntington has given $2,000 to defray the expenses of a lying-in department of the New York Post-Graduate Medical School and Hospital. In this department poor women will be attended at their homes free of charge.

Dr. Nathaniel C. Husted, who for the last thirty years has practised medicine in this city, died at his home in Tarrytown, on November 20th, in the sixty-sixth year of his age. Dr. Husted was born in 1825 at Greenwich, Conn. He came to this city, and entering the Medical College of the University of the City of New York, was graduated from it in 1853. At the outbreak of the civil war he entered the army as surgeon, and was deputed by the Governor of New York to attend to the wounded at Fortress Monroe and the Army of the Potomac. He was also at one time surgeon to the Police Department and to St. Luke's Dispensary. In 1878 he removed to Tarrytown on account of his health, but, nevertheless, did not entirely give up his extensive practice in this city.

Suicide of a Medical Student.—A young man from Texas, who had been studying medicine at the University of Pennsylvania, became insane and was taken to a hospital, where he committed suicide by cutting his throat with a piece of glass.

Examinations by the Medical Board of New York.—The Attorney-General of New York has given a ruling of some importance to foreign graduates. He interprets the law to require that all physicians having foreign diplomas only, and desiring to practise in the State, must undergo an examination by the State Medical Board before a license can be issued.—*New York Medical Journal.*

The Barge Office Physicians.—When the Federal Government assumed charge of immigration at this port a corps of young surgeons from the Marine Hospital Service was detailed to examine and care for sick immigrants. The provisions of the new law made a rigid physical examination of immigrants necessary to determine whether they should or should not be landed. More

doctors were needed than when the old State Board's single medical examiner passed on the throngs that came through Castle Garden. Then consumptives were not in the prohibited class. Now, even if an immigrant has incipient tuberculosis he is sent back. There are five men in the medical department of the Barge Office. They are no longer connected with the Marine Hospital service, but belong to a recently organized service of their own.

Washington and Its Diarrhœa.—Dr. Weir Mitchell sends the following note to *The Medical News*: "I consider Washington to be so clearly the best place for our Congress that I am moved to say a word as to the cause of the diarrhœa from which I, in common with many others, suffered during our second and very successful meeting. The water was not to blame. I drank no drop of it, except as it was used boiled in coffee. I know of others who suffered despite this and every other precaution; also, the manifestation was too general to have been due to food, for it affected people living in hotels and in private houses. Finally, it existed over a large part of the country—in Newport, R. I., for instance, whither I went after a week in the Maryland hills, where also it was sharply felt. The cause, therefore, was not the product of Washington, nor should it be allowed to influence us when again we come to summon, for a like purpose, the remarkable body of men which constituted the Congress." We have heard of other gentlemen who did not drink water while in Washington and yet had the diarrhœa. The epidemic theory, however, is weakened by the fact that most members did not have the diarrhœa before going to Washington or after leaving it.

United States Medical Practitioners' Protective Alliance.—The report of the proceedings of the first annual meeting of the United States Medical Practitioners' Protective Alliance, held at Baltimore, June 11, 1891, just published, contains the Constitution and By-laws, and the addresses of the Founder, Dr. J. H. DeWolf, of the President, Dr. W. H. Crim, and of Dr. W. V. Wilson. The objects of the Association, as stated by the Constitution, are "to maintain organized co-operation among the practising physicians who are legally qualified to practise in their respective States and in good standing in the profession, for the purpose of protecting medical practitioners from the abuse of dispensaries, that treat many who are well able to pay; from the unjust competition caused by short-term, quick graduating, and inferior medical colleges; to endeavor to promote the passage of just and equitable laws regulating the practice of medicine in all the States, so that the license to practise issued by any one State shall be valid in any other State; and to devise means to enhance our financial condition (and thereby our usefulness) in every honorable way, and to derive the incalculable benefits that only can be obtained by combination and unity of action."

Music and Medicine.—It seems to be thought by some persons that the use of music for medical purposes has never been seriously attempted. But as a matter of fact the subject has quite a large literature of its own, as may be seen by referring to an interesting article on "Medical Music" in the "Curiosities of Literature," by the elder Disraeli. A glance at this will show how many and painstaking have been the efforts made by succeeding generations of musicians and medical men to apply the strains of music to the relief of human suffering. Somehow the various revivals never had a long survival.—*Medical Press.*

Modern Medicine.—The first volume of a French work on "Modern Medicine" has just made its appearance. Professors Charcot, Bouchard, and Brissaud are the editors. The work will be completed in six volumes, within two years.

A Daily Medical Journal has been started in Philadelphia.

A Beneficent Quarrel.—Pittsburg is at present infested with quacks, and they are bidding for patronage by the destructive though laudable device of traducing each other. The newspapers are full of "exposures," "challenges," and other paper bullets calculated to pulverize the opposition. An occasion where telling the truth will best serve their purpose is so rare to these gentry that they evidently enjoy the novelty, and intend to indulge it to the utmost. As a result, the newspapers are enriched, the public is informed, and everybody is amused. By the time the merry war is over, such shreds of reputation as they may originally have had will be completely destroyed, and gentle peace will return to brood over a much benefited community.—*Pittsburg Medical Review.*

Nurses Recruited from the Criminal Classes.—Dr. Leonard Weber, of this city, writes under date of November 24th: "Again a brutal outrage has been committed by a male nurse, and on this occasion upon the wife of the unfortunate patient whom the man was engaged to attend. In May last two invalids were robbed by professional (?) nurses. The question was asked then, how a convicted murderer came to be a professional nurse, and on whose responsibility a robber and brute was introduced into the chamber of a sick man, lying ill at a hotel, and evidently without family or friends about him. Now, such dreadful recurrences ought to be prevented, and if there is not an organization among the physicians of this city to guarantee the exclusion of criminal persons from the list of professional nurses, it is high time that we have one. I believe it ought to be the business of the New York County Medical Society to establish a bureau for the registration of male nurses, and the committee appointed for the purpose should carefully examine the credentials of an applicant for registration, and no person be granted the use of the registry unless these are satisfactory. The nurse may be charged a small fee for registration, and if convicted of grave errors in conduct or work, should at once be dropped from the list. Physicians and druggists should be supplied with revised lists on application or otherwise. Some of our private nurse agencies are fairly reliable, but none of them have the time and means to investigate the record of their nurses."

Prognosing the Sex of the Child.—Dr. Ross, of Belfast, says that he can foretell the sex of the child from the place where the mother feels the fœtal movements most distinctly. If she feels them chiefly on the right side the child will be a girl; if on the left side, a boy.

Society Reports.

THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Fourth Annual Meeting, held at Richmond, Va., November 10, 11, and 12, 1891.

(Continued from page 641.)

LEWIS S. MCMURTRY, M.D., OF LOUISVILLE, PRESIDENT

SECOND DAY, WEDNESDAY, NOVEMBER 11TH.

DR. MOORE, of Richmond, made some remarks, welcoming the members of the Association to the city.

Medico-Legal Aspect of Pelvic Inflammation.—DR. W. W. POTTER, of Buffalo, read the paper. He began by saying that pelvic inflammations in women had been discussed from almost every point of view excepting the one he had chosen. He based his paper on a case whose history may be epitomized as follows:

A young married woman, pregnant, fell into a shallow street excavation, was immediately helped out, and walked home. In about a fortnight she suffered pain and called a physician, who diagnosticated it general peritonitis. She had several recurrent attacks prior to her delivery, which occurred about three months after the alleged fall, when she was delivered by forceps of a stillborn child. A few weeks after confinement she was seized with pain in the right hip-joint, which was finally diagnosticated and treated as coxitis. The right extremity was placed in an extension splint, where it was kept for a period of two or three months. A suit for damages was entered against the city and paving contractors, and several experts were invited by the counsel on both sides to examine the patient. On one side of the prosecution it was held that the woman's sufferings were due entirely to the alleged fall, while the defence held that her condition was due to circumstances entirely independent of any injury; that she had suffered from recurrent pelvic inflammation; that there was no hip-joint disease and never had been, and that she was not entitled to damages on that ground. A verdict was given for a nominal sum. An appeal was taken. The author called attention to the fact that reflexes pertaining to a disease of the pelvic organs were very common, and especially were they prone to manifest themselves in the larger joints of the extremity, notably the hip and knee. This might reasonably be expected when the intimate nerve-communication between the pelvic organs and hip-joints were recalled. These reflexes had often been treated instead of the disease itself, and had been called neuralgia, rheumatism, and various other names. The author cited a paper by Dr. R. H. Sayre, in which he referred to the fact that many such cases had been treated for genuine Pott's disease, with corsets and braces, that were ascertained to be due to disease of the pelvic organs with spinal reflexes simulating Pott's disease. He emphasized the points of his paper as follows:

1. The intimate anatomical relations between the pelvic organs and the larger joints, especially the hip- and knee-joints, render them liable to reflexes. 2. The importance of careful diagnosis at the outset, lest grave errors, and possible disastrous consequences, may result from misdirected treatment. 3. The medico-legal bearing that errors of judgment in diagnosis and treatment may have in relation to the patient, as well as upon the reputation of the physician.

DRS. READ, of Cincinnati, ENGELMAN, of St. Louis, HOWARD A. KELLY, of Westmoreland, OPIE, PRICE, and STONE related experience bearing more or less on the medico-legal aspect of the case, especially as concerned reflex pains from pelvic disease resembling joint disease.

Medico-Legal Aspect of Intestinal Surgery.—DR. J. D. S. DAVIS, of Birmingham, read a paper with this title. To escape an action at law in the class of cases under consideration, the surgeon should have a knowledge of the operation to be performed; should recognize the necessity for an operation; exercise at least ordinary skill in its performance. To assume ability to give expert testimony, one should at least have had experience in intestinal surgery on the lower animals. Certainly, one should not attempt an operation on the human subject without first operating on dogs and the cadaver, and the percentage of recoveries from operations on animals should have been raised to not lower than fifty. There was no adequate legal protection for the physician or surgeon against unjust civil or criminal prosecution.

DR. ROSS, of Toronto, Canada, referred to a case of gastro-enterostomy in which, as an assistant at the operation, he profited greatly by experiments which he had made on dogs and the cadaver; and like others who discussed the paper, he expressed the opinion that one should not undertake intestinal surgery without first having acquired some experience and skill in doing the operations on lower animals.

DRS. WESTMORELAND, DEAN, W. E. B. DAVIS, and PRICE, impressed the importance of operating as soon as possible, say within half an hour, after gunshot and stab wounds of the abdomen.

DR. MARCY suggested the use of gas after closing all visible perforations, in order that possible concealed ones might be revealed. He preferred oxygen gas.

DR. R. T. MORRIS thought some display of medico-legal knowledge on the part of the doctor would deter money-seeking attorneys from pushing a weak case so urgently in the lower courts, knowing that an appeal would be taken and the decision reversed by the better informed judge.

DR. W. E. B. DAVIS said he had great admiration for Dr. Senn, but he was convinced that his gas-test had been over-estimated in value; yet whenever in court a surgeon replied to the interrogatory of the prosecuting attorney, that he had not in the given case resorted to this test, it damaged his cause.

DR. BAXTER referred to a case seen by him in consultation on the sixth day, in which the man had seventeen balls enter the abdomen, yet after a few months he recovered completely without an operation.

How to Administer Ether.—DR. JOHN A. WYETH, of New York, repeated remarks which he had made on a former occasion, in praise of the administration of ether by the Ormsby inhaler, whereby a maximum effect with a minimum amount was secured. He had operated half an hour while using only half an ounce of ether. By this inhaler the patient breathed the same air repeatedly, as it was confined in a rubber bag, and the anæsthesia was due doubtless largely to the carbonic acid gas inhaled. Where free air was constantly mixed with the ether, as by ordinary inhalers, the respiratory tract was chilled; much ether being used, internal organs, especially the kidneys, were liable to become affected.

Hand Disinfection.—DR. HOWARD A. KELLY, of Baltimore, said his observations on this subject were based on laboratory studies. Suppuration, he said, was caused by micro-organisms, most commonly by the staphylococcus pyogenes albus, and aureus. Prevent invasion of these germs, and you prevent suppuration. Disinfection meant the destruction or actual removal of such germs. By the use of the Arnold steam sterilizer the surgeon's armamentarium could be absolutely sterilized. But two more avenues of possible infection remained, namely, the hands of the surgeon and the patient's own body. Infection by the latter means might be called auto-inoculation. He presented his observations and conclusions regarding the former only. On placing some of the scrapings of the epidermis from the fingers in the test-tubes, numbers of the staphylococcus pyogenes albus and some of aureus would develop. Wash and scrub the hands with the brush, soap, and water five to twenty minutes, and the scrapings would still develop the micro-organisms in the test-tube, though in smaller numbers. Bichloride of mercury, 1 to 100 and

1 to 500, used on the hands, also failed to destroy the germs, although it inhibited their further growth until the salt was removed. Other agents much in use in cleansing the hands, including peroxide of hydrogen, also failed to destroy the germs, as shown by similar tests. No other means had been as efficient as permanganate of potash applied to the hands in saturated solution, and then decolorized by a saturated solution of oxalic acid. If, however, but a single measure were to be made use of, he would recommend thorough scrubbing with soap and water, because, in a mechanical way, it so far cleansed the hands of germs that what few remained might not become dislodged during the operation and contaminate the wound. Where accessible, one should also use the permanganate solution followed by the decolorizing oxalic acid.

Dr. Ross, of Toronto, thought men working in laboratories and bacteriologists were a little confusing. The germicide recommended yesterday was condemned to-day, and who knew but what that recommended to-day would be condemned to-morrow? He felt that bichloride had done him a good service, and he was not prepared to suddenly discard it entirely because the experiments carried on in laboratories seemed to point to its inefficiency. It was not quite clear just to what the success of our operations was due in many cases. He had during the past summer obtained better results in his operations in the hospital, under ordinary aseptic precautions, than formerly, when the walls were carefully washed down with bichloride, etc.

Drs. Buckmaster, Marcy, Wyeth, Davis, and Engelman thought Dr. Kelly in this work was moving in the right direction.

The Pedicle in Hysterectomy; How Formed; Its Subsequent Behavior; Its Final Condition.—Dr. I. S. Stone, of Washington, read a paper with this title, describing the different methods of disposing of the pedicle, and showing up the advantages of the internal method, although admitting the remarkable success obtained by some, especially Dr. Joseph Price, with fixing the pedicle in the abdominal wound.

Dr. Ross practised a modification of Eastman's method.

Dr. R. T. Morris said he had operated only six or seven times, and this limited experience had led him to ask what was the need of making a pedicle at all.

Dr. Joseph Price had operated in sixty-nine cases, and had had only four deaths, one of which he attributed to bad surgery. By applying forceps as landmarks during the reduction in size of the pedicle, etc., one was enabled to operate rapidly and with safety.

Dr. Stone thought that, notwithstanding Dr. Price's remarkable success, he might attain even greater success by the intra-abdominal treatment of the pedicle, and that in the course of time he would recognize some ill-result from the extra-peritoneal method.

The President's Annual Address.—Dr. L. S. McMurtry having thanked the Association for the honor of electing him its president, and referred in general terms to the position of the South in the country's history, proceeded to make

A Plea for Progressive Surgery.—The term conservative had come to be used in a different sense in surgery from that of "having power to preserve in a safe or entire state, or from loss, waste, or injury," as Webster had defined it. It had been made of late to have a very wide and altogether arbitrary significance, being often used in antithesis of progressive surgery.

Not many years had elapsed since it was the custom of surgeons to defer operative interference in cases of ovarian cysts until the patient had been reduced by emaciation, and this was pronounced conservative. At present, to operate in such cases as soon as the tumor was discovered was very properly regarded as the conservative course. In some other conditions a course was pursued to-day whereby operations were deferred until the patient was in a dying condition, and, sad to say, it was called conservatism. All knew that throughout the land, every year, many women perished of suppurative conditions in the pelvis for want of operative treatment; yet, under a plea of conservatism, we heard the great advance which had been made in pelvic surgery, whereby so many lives had been saved, denounced from the rostrum and ridiculed in the medical press. That some rash enthusiasts, or that some injudicious operators, should misapply an operation of great worth was not new, but it did not justify inveighing against the operative treatment of such a grave form of disease without discrimination.

Surgery was advanced more by the aggressiveness of the surgeon than by timidity.

Injuries to the Pelvic Floor, and the Method of Repairing Them.—Dr. Thomas Addis Emmet, of New York, read an exhaustive paper expressive of his views of the structure of the pelvic floor, of what occurs when injured during labor, and of how to effect its repair. The following points, taken here and there from the paper, may convey some idea of the author's views. The grooves or sulci formed by the flattened walls of the vagina, were simply the result of lifting the posterior wall up to the anterior wall, while at the same time the needful degree of lateral traction was exerted by the fascia. The fascia here, as a continuation of that in the pelvis, held the muscular mass in a common sheath. The proper circulation of the blood through the pelvis could be maintained only so long as the integrity of the connective tissue or fascia was preserved. As the veins ran in and out of the fascia they received from the fascia and elastic surrounding tissue that degree of support needed to prevent undue dilatation and straightening from a normally tortuous course. He did not accept the teaching of obstetricians, that during the progress of labor the pelvic fascia and muscles softened down to permit of passage of the child's head. The increase in the transverse diameter was rather to be accounted for by shortening or decrease in the length of the canal. The uterus would be observed to be nearer the vaginal outlet at the close of labor than at any other stage. The author likened the passage of the child through the vaginal canal to the advance of a piston through a cylinder to which a tapering nozzle was attached. In the case of labor the head reached the narrower portion of the canal where the vagina entered the muscular diaphragm at the floor. If the vagina did not shorten sufficiently, and the force continued, a rent must take place in the long axis of the vagina. If the tear stopped short of the fascia or posterior commissure, not entering the rectum, probably no serious results would follow after the parts had cicatrized.

When the sphincter was torn the head escaped into the rectum, was delivered through the rent in the muscle, as was proven by the fact that the fascia sometimes was not torn. No greater evil consequence followed such an injury through the sphincter than incontinence. But the common injury present in women said to have rupture of the perineum, was a transverse one to the vagina, a rupture of the fascia where it came down and was reflected over the muscles. Sometimes no scar whatever could be detected to indicate the existence of a most marked degree of injury. In these cases at least it could be proved that there certainly was no perineal body, for the two fingers, one inside and the other outside, could be brought almost in contact with each other, only skin and vaginal mucous membrane intervening. The vaginal outlet thus became like the mouth of a bag from which the puckering string had been withdrawn, yet no injury was visible.

The author explained the consequence of neglected tears, the action and result of separation of the perineal muscles, his method of operating, etc. In accord with his view of the pathology of the injury, he had gradually perfected an operation, whose purpose was to catch up the retracted fascia at a point, and in such a manner, that he could take in the slack of the fascia throughout the pelvis. By this procedure the posterior wall of the vagina

was lifted up and drawn forward in contact with the vesico-vaginal septum, the separated levator ani muscles were apparently brought together, the concave outline of the recto-vaginal septum was restored, the blood-vessels were supported, the circulation again became normal, coitus became pleasurable instead of painful and repulsive. The operation was described in detail. It was not, the speaker said, a new operation, differing from the one he had for years performed only in the manner of putting in the sutures. Now, these were all within the vagina, formerly a part of them were in the vulva.

Drs. Joseph Price, Howard Kelly, and Buckmaster made use of Emmet's later operation with slight modifications.

Dr. Marcy also made some remarks on the procedure practised by him.

The Growth of Fibroid Tumors of the Uterus after the Menopause.—Dr. Joseph Taber Johnson, of Washington, read the paper. It had fallen to his lot, the past five years, to see as many as a dozen cases of growing fibroids of the uterus in women over fifty or sixty years of age, women who had been told by physicians that probably after the menopause the tumor would decrease in size or disappear. He did not think that with our present knowledge of the progress of fibroids, and skill with which operative treatment could be carried out, advice to wait for the menopause was wise; at any rate, the patient could be given no positive assurance that the tumor would diminish or cease to grow after the menopause, and it might become cystic or enlarge, and cause grave symptoms, and make a later operation more dangerous.

Dr. Kollock said that in his experience where fibroids continued to enlarge at the period of the menopause they were cystic.

Dr. Joseph Price did not hesitate to urge the removal of the uterine appendages in all cases of small fibroids, and in others to remove them. Rapid growth of the tumor after the menopause was not uncommon. Cystic or malignant change would be avoided by an operation.

Drs. Stone and Engelman agreed with the author.

The Surgical Treatment of Anterior Displacement of the Uterus.—Dr. A. L. Reed, of Cincinnati, in a paper on this subject, took the view that anterior displacements existing in pathological degree were proper for gynecic art. Of course, where known, the cause should if possible also be removed. This might call for massage and other treatment not strictly surgical. The operation which he performed was a modification of Dudley's, of Chicago. Relief had been given so far as dysmenorrhœa was concerned, but his sterile patients had not yet conceived.

The Part the Shoulders Play in Producing Laceration of the Perineum, with Suggestions for Its Prevention.—Dr. W. D. Haggard, of Nashville, in this paper first showed that authors had not fully recognized the part played by the passage of the shoulders in the production of laceration of the perineum, and for this reason conflicting opinions prevailed regarding the proper position of the woman, and management of the case at this stage. The diameter of the shoulders was greater than that of the head, the shape placed the perineum at a greater disadvantage, this structure contracted around the neck on the passage of the head, it often had not time to relax before a forcible contraction of the uterus took place, and if the woman were on the back these disadvantages would be enhanced. Slow delivery at this stage was desirable, yet Lusk had advised pressure upon the uterus in order to aid its expulsive effort.

In addition to placing the woman in the left lateral position, forcible expulsion, with its attendant dangers during the passage of the head and body through the perineum, should be avoided by supporting, not the perineum, but the advancing part. This was accomplished with the thumb in the rectum and the fingers on the perineum or in the vagina. Supporting the perineum would do harm rather than good.

Third Day, Thursday, November 12th.

Abdominal Section in a Case of Cyst of the Mesentery.—Dr. J. A. Goggans, of Alexander City, Ala., showed in the first part of his paper the rarity of tumors of the mesentery, only a few cases of cyst and lipoma having been removed, and usually, in them, with a fatal result. In his own case, which occurred in a young lady, the abdomen began to increase in size in 1890, and she was treated by several physicians for abdominal dropsy. He saw her in February, 1891, and used the aspirator, drawing off a quart of dark-colored fluid for diagnostic purposes. Dr. W. E. B. Davis consented to assist at the operation, which was done February 24th, when on making a long incision in the median line he came down upon a tumor which was found to be within the fold of the mesentery. Enucleation had to be abandoned because of severe hemorrhage, and the tumor was drawn into the abdominal opening, emptied, and a glass drainage-tube introduced. Hot-water injections were made into the tube frequently, until after some days it was withdrawn and a smaller tube introduced. The patient made a good recovery.

Dr. R. T. Morris mentioned the need for care, in abdominal operations in general, not to make an opening into the mesentery, as through this opening, although small, hernia was likely to take place.

Thinness of Uterine Walls Simulating Extra-uterine Pregnancy.—Dr. G. J. Engelman, of St. Louis, related two cases in illustration of his subject. The first patient had had three children in rapid succession, was nursing the last one, aged twenty months, had not menstruated, was weak. She came to the clinic complaining of something coming down, and of a swelling and pain in the right groin. The tumor in the groin was movable, the soft copper applicator entered the uterus over three inches in a slightly anterior direction; no connection could be made out between the uterus and tumor, the latter seemed superimposed upon the former, or was possibly in the anterior wall. It was apparently a solid, round, hard tumor, in no way resembling the pregnant uterus. The condition of the uterus was such as might be expected in a woman whose system had been drained. The treatment was expectant, and astringent applications were made within the uterus. At the next visit the tumor would absolutely disappear and return again, but there was nothing like a contraction of the pregnant uterus. In time this tumor could not be felt at all. The patient then remained away for some time, and then the parts of the child could be made out, by palpation through the vagina, with very great distinctness. The parts of the child could now also be made out by palpation over the abdomen. It seemed almost impossible that the uterine wall could intervene. Supposing there was extra-uterine pregnancy, the patient was instructed to give notice in case symptoms of rupture, etc., should develop. The applicator gradually went in further, but never in an anterior direction in the region of the sac where the fœtus was found. The patient miscarried about the fifth month, showing that there had been uterine pregnancy. The other case was very similar.

Dr. Ross did not think thinness of the uterine wall should lead to a mistaken diagnosis of ectopic pregnancy. Where he found extreme thinness he doubted whether the pregnancy was extra-uterine, and waited for time to clear up doubt.

Dr. Rhoe, of Baltimore, thought rectal palpation would have revealed the true character of the cases related by Dr. Engelman. He and others doubted the diagnostic value of the sound, and spoke also of its dangers.

Removal of Carious Bone by Hydrochloric Acid and Pepsin.—Dr. Robert T. Morris, of New York, gave the results of experiments which he had made on the absorption of bone by muriatic acid and pepsin. It had been stated that the dilute acid would decalcify and cause

the diseased bone to disappear, and not attack the healthy bone. He found that a five per cent. solution of hydrochloric acid would decalcify diseased bone placed in the solution in six hours, but it also had the same effect in a live terrapin, but after a much longer period, or thirty hours. It was his belief that a two or three per cent. solution of the acid could be used safely in cases of necrotic or carious bone in man or child, but it was necessary to make alternate use of the acid and pepsin, the latter being used to digest the organic matter, and clear the bone for further action by the acid.

Drs. Brown and Goggan related cases in which dilute muriatic acid caused recovery from necrosis. Dr. Brown's case was one of necrosis of the toes with dry gangrene, and the acid used was the dilute officinal solution.

The Present Status of Cerebral Surgery.—Dr. Landon Carter Gray, of New York, read a paper on the modern aspect of cerebral surgery. He briefly reviewed our present knowledge of localization of functions of the brain. We were well acquainted with the functions of the motor area—of the third frontal convolution, the frontal lobe, the island of Reil, the two upper temporal convolutions, the cuneus, certain portions of the basal ganglia, the base of the brain, and the cerebellum. We knew nothing, or had still under discussion, the question of the localization of the centres for the sensations of touch, pain, muscular sense, temperature sense, most of the parietal lobe, and most of the temporo-sphenoidal lobe, with the exception of the olfactory lobe. Operations for fracture of the skull, with or without hemorrhage, for abscess, and for tumors that were removable and localizable, were usually successful; those for so-called idiopathic epilepsy were utterly valueless, as were also those for epilepsy supposed to be due to genital or ovarian irritations; while those done for epilepsy due to removable and localizable lesions of the intra-cranial contents were usually successful so far as the lesion was concerned, although it was a grave question as to whether the epileptic habit was ever cured; the latest operation for idiocy supposed to be due to premature ossification of the fontanelles was still under discussion and consideration, the cases being too few and too recent to permit of any conclusion, while the operations for hydrocephalus and for epilepsy due to such early infantile and fœtal lesions as porencephalus, hemorrhage, and meningitis were indefensible. He impressed upon surgeons the great difficulty that there often was in finding a subcortical lesion of the centrum ovale that was deep-seated or small; and the fact should be borne in mind that there might be no decussation of the motor fibres from the hemispheres, so that a lesion would be found upon the same side as the paralysis.

Dr. Hunter McGuire trephined a negro who had epilepsy and had degraded to a beast. He could give no account of his condition for years. There was very little depression of the external plate, greater depression of the internal. The man began to improve at once mentally, asked about war matters, his mind reverting back to what had taken place six years before, when, it was learned, he had sustained an injury of the head. The time between the accident and the operation was a blank. Occasional results like this lent some hope from an operation, but he had performed all sorts of operations for the relief of epilepsy, usually with no permanent result.

Some of the Complications of Psoas Abscess.—Dr. J. McFadden Gaston, of Atlanta, read the paper. These cases should not be confounded with abscess in the psoas region formed by burrowing of pus from vertebral disease. Scrofula and tuberculosis played no part in the etiology, unless incidentally. Two cases of inflammtion of the psoas with abscess had come under his observation, one of which he had already published. The second one resulted from the kick of a mule. It was still under observation, and he had reason to hope that the abscess would yet open externally, like in the first case, although there had already been escape of pus per anum, showing that the colon had been perforated. A practical lesson taught by the cases was that if we would avoid a perforation into the gut, the direction of least resistance, we should resort to incision over the region of the abscess as soon as there was evidence of pus, and encourage pointing externally. An exploratory needle might be used to discover pus, and finding it, make an external outlet at once.

Opossum-tail Suture.—Dr. H. O. Marcy, of Boston, who had long made use of the suture obtained from the tail of the kangaroo for ligature purposes, with excellent results, said he had recently had his attention called to the long and strong fibres present in the tail of the opossum, which he thought might answer ligature purposes much better than catgut. He showed an opossum with the tail dissected, nicely illustrating the length and strength of the fibrous tendons.

The speaker had often had opportunity to inspect vessels long after they had been ligated with kangaroo tendon, and found the tendon had not been absorbed or encapsulated, but had become a part of the living tissue. The importance of this observation need not be dwelt upon. He always buried his sutures, so that amputation and other wounds seldom needed further attention.

Venomous Serpents of the United States, and the Treatment of Wounds Inflicted by Them.—Dr. Paul B. Barringer, of the University of Virginia, presented his subject verbally and by illustration. The serpents of the States were classified as follows: the columbrine, which were harmless; the elopidæ, of which there was but a single poisonous species; crotaline, which included rattlesnakes (two genera), copperheads (two species), and the water-moccasin (one species). Of lizards there was one, the Gila monster, which he regarded as venomous only when in a rage. Its venomous sac he believed to be outside the lower jaw. In the rattlesnake of about four feet the sac would contain about fifteen minims of venomous fluid, in the copperhead the amount was less, but only a small part of this would kill a man if it were injected into his circulation. The venomous fluid contained, in different proportions according to the kind of snake, venom peptone and venom globulin. The former caused temporary depression of the heart and blood-pressure, then gradually produced paralysis of the spinal cord, extending upward, and causing death by asphyxia. Venom globulin had a similar paralyzing effect on the cord, but in less degree, its action being characterized especially by destroying the coagulability of the blood and causing marked swelling. In his experiments—proving, as he thought he did, that Weir Mitchell was in error when he claimed the venom contained bacteria—the author said he found, much to his own surprise, numerous hæmatoid worms in the fluid when pressed from the venom-sac through the snake's asepticized tooth.

Speaking of treatment, Dr. Barringer was sarcastic in his remarks upon the prevailing custom among the laity of filling the poor victim with whiskey. He believed this was the cause of more deaths than the bites of serpents. Strychnine, having an excitant action on the cord, might in large doses, one-thirtieth to one-twentieth of a grain, retard or prevent the paralyzing influence of the poison. The bite of a cowardly snake, one running away, was less dangerous than that of one which stood on the defensive. In this country they were seldom aggressive. Apply a tourniquet tightly and immediately; cut out the bite; suck it. Liquor potassi injected into the wound would render the poison innoxious. Permanganate of potash would also be effectual, applied early enough to the wound.

Imperforate Rectum.—Dr. George B. Johnson, of Richmond, treated of this subject in the way generally approved of in surgical works, and related two cases which had come under his observation. He showed his last patient, a child in which he was unable to reach the rectum by the perineal route, and therefore had made an opening into the colon in the inguinal region. This was

done last summer, and the child was fat and strong. There was some prolapsus, which he hoped to overcome later by making the opening smaller.

Induced Abortion for the Relief of Nausea and Vomiting.—DR. THOMPKINS, of Richmond, gave in detail efforts to overcome the vomiting in a case of pregnancy, resort being had at last to induced abortion; but death took place some days later. This result was to be accounted for by the reduced state in which the patient was left by a previous injury to a lower extremity, and by the nausea and vomiting interfering with nutrition.

Election of Officers.—*President*, Dr. J. McFadden Gaston, of Atlanta, Ga.; *First Vice-President*, Dr. C. Kollock, of Cheraw, S. C.; *Second Vice-President*, Dr. George Benjamin Johnson, of Richmond, Va.; *Secretary*, Dr. W. E. B. Davis, of Birmingham, Ala.; *Treasurer*, Dr. H. P. Cochrane, of Birmingham, Ala.; *Member of the Council*, Dr. Hunter McGuire, of Richmond, Va.

Next meeting to be held at Louisville, Ky., the second Tuesday in November, 1892.

NEW YORK ACADEMY OF MEDICINE.

Anniversary Meeting, November 19, 1891.

A. L. LOOMIS, M.D., PRESIDENT, IN THE CHAIR.

The Academy's Prosperity.—THE PRESIDENT, on taking the Chair, made a few remarks to the general public, which had been invited by card to attend the anniversary meeting, on the prosperity shown by the Academy the past year. The increase in membership had been greater than during any preceding year; larger additions had been made to the library, and a great deal of good scientific work had been done in the sections and general meetings. The Academy had grown more and more in the confidence of the public in all matters. The new building had more than fulfilled their expectations, and it was fast becoming the centre of all the medical activity of the city. He then introduced Professor Charles F. Chandler, who was to deliver the annual address.

Arsenic in Common Life.—PROFESSOR F. CHANDLER said that he had accepted the President's invitation to deliver the annual address with some hesitation, doubting whether he would be able to present any scientific subject in an interesting way to an audience composed of both physicians and the public. He said he had no paper to read; that his remarks upon "Arsenic in Common Life" would be based upon some notes which he had been able to make recently. In common with everyone else in the community, he had grown up to regard arsenic as a terribly poisonous substance. He found floating about in medical journals and public press various statements as to sickness produced by arsenic which existed in wall-paper, etc. When he became connected with the Health Department it occurred to him that it might be well to inquire into the subject of arsenical wall-paper, and if he should find any truth in the stories regarding its injurious effects upon the health of the community, it would be well to have laws enacted prohibiting its sale. In this state of mind he first consulted some of the medical profession. If he remembered correctly, the first physician to whom he mentioned the subject was the late Dr. John Dalton. His remark was, "Has that old humbug come around again?" That rather surprised him, and he consulted several other physicians, but did not succeed in finding one at that time who seemed to think there was anything in poisoning from arsenical wall-paper.

It then occurred to him to look over some of the articles setting forth the dangers of arsenic in wall-papers, etc., and he must say the evidence was not of a very satisfactory kind—not such as would be received in a court of law. He then looked up the evidence offered by some chemical authorities, and found on careful scrutiny that their conclusions were not warranted. He then did a little experimenting. He had large pieces of wall-paper, thickly coated with arsenic, hung where air passed over them which previously had passed through certain chemical solutions, with a view to decomposing the arsenic in the paper, and the air itself was rendered damp; but he did not succeed in discovering in it a trace of arsenic. He then dropped the subject, and probably would not have thought of it again had it not been that, about 1885–87, great excitement arose in Boston regarding arsenical wall-paper. Chemists in that city were kept busy day and night making analyses; the subject was brought before the Legislature with the intention to banish arsenic to the sea. He was then asked to express his views on the subject before a legislative committee, there stated what he had just said, and expressed the opinion that Boston was laboring under a fad. He did not dare show his face in that city any more. The chemists and physicians of Boston were committed almost as a unit to the idea.

The speaker here read cases reported by Harvard professors and others, in proof of illness or disease due to living in rooms papered with arsenical wall-paper, etc. In some instances, the symptoms said to be due to arsenical poisoning occurred in persons who had lived in the same rooms with unchanged wall-paper for seventeen to fifty years, or more.

An instance of this kind occurred in one of Boston's ex-mayors. The last year or two of his life he suffered from gastric and other symptoms which the physicians attributed to arsenical poisoning from wall-paper or the like, but unfortunately they made an autopsy and found cancer of the stomach. This rather perplexed the attendant physician, until it occurred to him that arsenical poisoning produced that kind of cancer. If arsenic was not found in the wall-paper, cretonne, carpet, nor anywhere else, then physicians down that way would ascribe any obscure symptoms to arsenic which had entered the system in some unknown way. It was always arsenic. The speaker had come to the conclusion that it was practically impossible for people to tell the truth, even when they tried. Doubtless all the witnesses whom he quoted were honest in their belief.

The chemists speculated as to how arsenic got into the person's system. First it was by inhaling air containing particles of arsenic, but seeing that this theory would not account for a large proportion of cases, they began to insist upon it that the wall-paper gave rise to arseniated hydrogen. But wall-paper containing as much as a grain of arsenic to the square yard would, in a room of any dimensions, give off arseniated hydrogen in such minute quantity, if at all, that it could have no effect. Numerous chemical authorities could be quoted to show that it was utterly impossible for arsenic to volatilize from wall-paper at any ordinary temperature.

But wall-papers, as now manufactured, contained no arsenical pigments. It was true that some papers showed a little arsenic which entered with the material from which they were manufactured, but the quantity was extremely small. It should be remembered that the tests for arsenic were most perfect. One could detect the $\frac{1}{8000}$ of a grain, so that the statement that one had found a trace of arsenic meant nothing. It was true the old-fashioned papers used many years ago contained more arsenic, but they did not lose it; it was to be found in them on walls to-day where they had remained a great many years. Most wall-paper was manufactured in New York and Philadelphia, and on inquiry he had found no workmen in the factories ever suffered from arsenical poisoning. Symptoms arose sometimes among persons who manufactured a destroyer of potato-bugs, but then they inhaled the fumes and the dust while sifting the substance containing arsenic. Few of them were affected, and as soon as an eruption appeared on the forehead or wrists they took an antidote and continued their work. They were grossly negligent. This showed that a greater quantity of the poison would have to enter the system to produce symptoms than could possibly be inhaled in

rooms whose walls were covered with arsenical paper, or the furniture of which might contain traces. With regard to their finding arsenic in the urine among the Bostonians, it was in minute quantity, as a rule less than $\frac{1}{3000}$ of a grain, and might have entered with the vegetable food, baking powder, and various other ways, for traces of arsenic were present almost everywhere. A great many, if not all, mineral waters contained traces. The speaker said the symptoms of arsenical poisoning were not so specific that physicians could usually make the diagnosis of arsenical poisoning, and in illustration of this fact related the history of a man who, when his history was traced, was found to have gotten rid of seven wives, probably by slow arsenical poisoning, yet in only one was the use of arsenic suspected. The body of the victim having been embalmed with an arsenical preparation, a chemical analysis to establish his guilt would have proven valueless. He said incidentally that there should be a law prohibiting undertakers using arsenic in the embalming process.

A collation was served.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

INFLUENZA AN INFECTIOUS NERVOUS FEVER—ITS NERVOUS SEQUELÆ — EXPERIMENTAL OBSERVATIONS ON THE AMMONIACAL DECOMPOSITION OF THE URINE—ANNUAL MEETING OF FELLOWS AND MEMBERS AT THE COLLEGE OF SURGEONS.

LONDON, November 7, 1891.

INFLUENZA has not entirely disappeared from our midst. Isolated cases still occur in the metropolis, and in the provinces outbreaks on a larger scale have taken place. The two papers brought before the Medical Society of London at its last meeting were, therefore, decidedly opportune. The first of these was by Dr. Julius Althaus, and in it the pathology of the affection was discussed at some length. The author expressed the opinion that the disease is not a catarrh, but an infectious nervous fever, and he referred all the symptoms to irritant poisoning by a "grippal toxine" of different centres of nervous force in the medulla oblongata. He attributed the peculiar fever to congestion of the thermolytic centre in the bulb produced by the irritant effect upon it of the "grippal toxine." The other symptoms of the nervous form of "grippe" were similarly referable to various centres in the bulb. "Grippal" catarrh and pneumonia were, he thought, due to congestion, or, in severe cases, to inflammation, of the nuclei of the fifth pair and the vago-accessory nerves in the bulb. The hemorrhagic tendency was to be accounted for by congestion of the vaso-constrictor centre in the medulla brought about by the "grippal toxine." The gastro-intestinal form, he urged, was produced by irritation of the vomiting centre in the bulb, and was occasionally transmitted to the splanchnic nerves by anastomoses in the cardiac plexus, and might then cause the symptoms of dysentery or choleraic diarrhœa.

Dr. Savage then read a paper on the "Neuroses of Influenza." He had, he said, seen in all some 54 cases of neuroses following influenza—33 in men, 21 in women. In 4, general paralysis of the insane resulted; in 20, melancholia; in 13, ordinary acute mania; in 6, delirious insanity; in 5, delirious mania; and in 6, mental weakness of some sort. Three-fourths of the patients recovered, and only three died. It was rare for a neurosis to present itself as the sequel of influenza in a perfectly healthy individual. All of his cases were suffering from some form of degeneration, or were under the influence of some potential cause of degeneration, such as alcohol or syphilis, or came of highly neurotic stock, and in some cases several of these factors were present at once. The patients who developed general paralysis of the insane had all shown signs, previous to the illness, of impending nervous breakdown. In the asylums influenza seemed to attack the sane more generally than the insane, and was equally marked by neuralgic pains in the limbs, etc. No definite relation existed between the severity of the attack of influenza and any subsequent neurosis. Any form of insanity might occur, but nervous symptoms of all kinds occurred quite independently of insanity. Simple neuroses, such as sleeplessness, neurasthenia, hypochondria, were common with or after an attack. The dangerous cases were of two classes—patients suffering from acute delirious mania, and those suffering from general paralysis of the insane. The treatment was general rather than special, and consisted in providing good food and surroundings, and administering hypnotics, etc.

On the motion of Dr. Sansom, seconded by Dr. B. W. Richardson, the debate on these two papers was adjourned.

At the Pathological Society, Mr. S. G. Shattock read a paper in which he gave an account of some investigations on the decomposition of urine which he had made. It appeared certain, he said, from the work of Pasteur and Lister, that healthy urine contained nothing which could bring about its own decomposition, and it was well known that in large hydronephrotic sacs the urine would remain clear and sweet for years; in extravasation there would be decomposition, but then the urine was usually foul beforehand. Several organisms had been found to produce decomposition of the urine. Two methods of investigating this subject were possible: 1, to isolate from the urine the organism growing in it and to identify it, and 2, to inoculate urine with other bacteria not usually found there, and see if they would produce ammoniacal fermentation. It was a question whether the hydrolysis of urea could be brought about by any method akin to the change produced in starches and albumins by superheating them, and Mr. Shattock showed that if urine were boiled for some time ammonia would be given off and a gradual hydrolysis of the urea would take place. If neutral urine were boiled, a precipitate of normal phosphates would occur, and if an acid urine were boiled for a sufficiently long time, the same result would follow. He had inoculated filtered and sterilized urine with active cultures of germs which had been grown in broth. In fully acid urine the common proteus vulgaris would not grow. Faintly acid urine, if heated discontinuously for four days, became amphoteric (from the development of free ammonia in it), and in this solution the proteus vulgaris grew slowly. He had tried both forms of streptococcus; the streptococcus bovis induced a faint ammoniacal reaction in the urine in which it was grown. The most marked results were obtained with the pyococcus albus and aureus; in forty-eight hours the latter produced an abundant fermentation with phosphatic deposit. It had usually been held that the micrococcus ureæ must be introduced from without, but these experiments showed that a suppurative pyelitis might induce an ammoniacal fermentation, and cause a precipitation of ammonio magnesian phosphate. The production of carbonate of ammonia by this fermentation was not of itself of so much importance in disease, but it served as an index of the putrefaction or suppuration that was going on. The carbonate of ammonia might, however, excite inflammation, and then the proteid products from the inflamed mucous membranes were added to the urine, and these furnished the toxic albumoses and alkaloids, which were elaborated by the agency of the micro-organisms. The possibility of an indirect pyogenic infection through the blood was not to be lost sight of, and in this way a simple catarrhal pyelitis might become suppurative, or a simple catarrhal cystitis purulent. He did not know at precisely what temperature the hydrolysis of urea occurred, but it certainly went on slowly at 60° C. A proper fermentation did not occur without the action of microbes, though a certain amount of decomposition of an unimportant kind might.

The usual annual meeting of Fellows and Members of the Royal College of Surgeons was held at the College on Thursday. The proceedings were very similar to those on former occasions of the kind. A resolution reaffirming the desirability of the members of the College taking some part in its management was passed with only one dissentient. Another resolution expressed regret at the Council having drawn up a scheme for a five years' curriculum without consulting the fellows and members. Complaint was also made that the Council had inserted in the report no reference to the general meeting held in May to consider the question of a university for London.

TREATMENT OF A "BAD COLD."

To the Editor of the Medical Record.

Sir: During the past twelve months I have read two sets of papers on the treatment of a "bad cold," in which the recommendations were peculiarly antiquated and musty. The suggestions contained in the first article appeared so out of date that I made a memorandum of them at the time, thinking it would be well to offer a criticism, and at the same time advise measures which would be more in keeping with modern therapeutics. The following notes cover the general plan of treatment:

1. The old-fashioned strong mustard foot-bath is advised at bedtime, the feet and legs being bathed up to the knees, and allowed to remain in hot water up to the knees for at least ten minutes. They are then to be wiped dry and patient put to bed at once.

2. A powder is then given containing a grain each of opium and ipecac and ten grains of antipyrine, which causes profuse diaphoresis, and gives the patient a good night's rest free from cough.

3. A vigorous friction of the chest with hartshorn or soap liniment is recommended to aid the action of the powder.

4. On the following morning the patient takes a good saline purgative, a glass of Villacabras or Rubinat mineral water, or two heaping teaspoonfuls of Sprudel salt.

5. As there is apt to be more or less bronchial irritation and cough for several days, severe enough to require treatment, to hasten recovery and promote comfort, a mild stimulating expectorant is indicated, like ammonium chloride. Take of

℞. Ammonium chloride..... 5 grains.
Spirits of chloroform,
Camphorated tincture of opium,
Syrup of ipecac.....āā 5½ minims.
Syrup of tolu, or syrup of wild cherry,
sufficient to make..... 1 teaspoonful.
M. Sig.: Take as often as required.

In lieu of the above, it is suggested that one-fifteenth to one-sixth of a grain of apomorphine chloride, two or three times daily, is sometimes equally efficacious.

Along with these instructions, it is stated that "probably ninety-five per cent. of cases"—such as that described, "would end in recovery without treatment."

In view of this latter admission, the question naturally arises as to the advisability of so much medication. If there is no pain in the side, no high temperature, no dulness on percussion, no bronchial breathing, and no portion of the lung-structure withdrawn from the exercise of its normal functions, with all the signs negative, wherefore this array of medicaments and remedial agents?

For the benefit of those members of the profession who are on the outlook for improvements upon the methods of by-gone days, and who so frequently hear the stereotyped assertion that "the babies can't take our medicine," I venture to offer a single remedy for the treatment of a "bad cold," that is far superior to all the baker's dozen just enumerated. Gelsemium is not only useful in those cases which would recover without medication, but is also efficient when formidable symptoms are present, and judiciously employed may be the means of averting an attack of pneumonia, pleuro-pneumonia, pleurisy, or other serious disease beginning in the form of a bad cold.

Gelsemium arrests profuse nasal secretions, quiets headache and neuralgia, subdues cough and pain, favors a re-establishment of the secretions, through its influence upon the skin, kidneys, and gastro-intestinal tract. It reduces temperature and pulse-rate, promotes sleep, and creates a feeling of comfort and well-being without in any way approaching narcosis or destroying the oxygen-carrying capacity of the blood-corpuscles. By the use of this single remedy, much discomfort to the patient is avoided, digestion remains undisturbed, nauseating draughts are banished, the necessity for purgatives precluded, and all dangers of subsequent relapse practically eliminated; while recovery is prompt, perfect, and satisfactory in every particular. Ten drops of a reliable fluid extract (assayed), are dissolved in three ounces of water, and of this mixture the patient takes a teaspoonful every ten or fifteen minutes for an hour, then at less frequent intervals according to the effects produced. The plan is simple, the medicine harmless in the dosage recommended, and not at all unpalatable, and the claims for it can be verified almost any day of the week at this season of the year, by submitting the remedy to the crucial test of clinical experience.

John Aulde, M.D.

Philadelphia, November 14, 1891.

DR. KESSLER AND METHYLANILIN.

To the Editor of the Medical Record.

Sir: Since the publication of my paper on the therapeutic effects of methylanilin in the Medical Record of July 5, 1890, covering a large field of medical, surgical, and gynecological practice, such as cutaneous affections, ulcerations, purulent discharges of all kinds like otorrhœa, gonorrhœa, leucorrhœa; irrigation of the bladder in chronic cystitis, etc., I have received recognition and encouragement from professional brethren all over the country which amply repaid me for my small effort. On the other side, several well-known gentlemen have taken up the subject since, and discussed it in the press and in medical societies, fully corroborating my first impressions and experiences, without, however, giving the slightest credit to my prior work; which means lack of courtesy as well as lack of justice. As I do not care to rush into the press unless I have something new to say, I merely wish to add that a careful and conscientious observation of nearly three years has more than verified my enthusiastic predictions, and the statement then made, that methylanilin is the ideal antiseptic and pus-destroyer. "Chronic purulent discharges cease altogether, and sometimes at once, after a thorough exhibition of the antiseptic over the diseased parts—the microscope even failing to reveal any pus-cells"—I broadly stated in my above-mentioned paper, and this I have found in a number of cases to be literally true.

Adolph Kessler, M.D.

644 Lexington Avenue, November 21, 1891.

A Sigh for the Three-Bottle Days.—Dr. Mortimer Granville, in his letter on teetotalism, referred to in these columns a few weeks ago, said concerning what he believed to be the injurious effects of total abstinence: "I sincerely believe that incalculable harm has been done to the average human organism, with its functions, which we are wont to classify as mental and physical, by the spread of teetotal views and practices. There is less stamina in the life of the average Englishman now than there was forty years ago. He may live a little longer, but he is not so well able to resist the invading germs of disease or to recover from the debilitating effects of such an invasion as he was when good wine and sound ale formed integral parts of his daily diet."

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department. United States Army, from November 15, 1891, *to November* 21, 1891.

WYETH, MARLBOROUGH C., Captain and Assistant Surgeon. The leave of absence granted on surgeon's certificate of disability, is extended three months, with permission to enter the Army and Navy General Hospital, Hot Springs, Ark.

GARDNER, EDWIN F., Captain and Assistant Surgeon. Relieved from further duty as Attending Surgeon and Examiner of Recruits in New York City.

RICHARD, CHARLES, Captain and Assistant Surgeon. Granted leave of absence for one month.

Official List of Changes in the Medical Corps of the United States Navy for the week ending November 21, 1891.

WOOLVERTON, THEORON, Medical Inspector. Placed on the retired list, November 13, 1891.

BRYANT, P. H., Assistant Surgeon. Detached from Coast Survey Steamer Gedney and wait orders.

JONES, W. H., Surgeon. Ordered to examination preliminary to promotion.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 21, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	34	10
Scarlet fever	124	15
Cerebro-spinal meningitis	0	2
Measles	45	4
Diphtheria	106	33
Small-pox	0	0
Varicella	3	0
Pertussis	3	6
Erysipelas	1	0
Mumps	1	0
Rötheln	0	0

Other Martyrs to Leprosy.—The *Medical Press* records the death of Father Testevuide, the founder of the Leper Hospital on Mount Fujii, Japan, which is as great a loss to that country as was that of Father Damien to the Sandwich Island leper community. The deceased missionary, finding in 1886 that there was no leper refuge in Japan, set to work and collected funds sufficient for the construction of the Mount Fujii Hospital, to the organization and maintenance of which he gave himself up entirely. Others have since taken up his apostolate, and there are now three leper hospitals where fifteen years ago there was none. Recently also another priest, who had consecrated his life to the service of lepers even before Father Damien, died in Surinam. His name was John Bakker; he was born in Holland, and was a member of the Redemptorist Order. His attention was called many years ago to the neglect of the lepers in the countries along the Caribbean Sea, and especially in Dutch Guiana, and he proceeded to Batavia and gave himself up to the care of these outcasts. He had been a leper for about nine years.

The Punishment for Rape.—The unlawful taking of the hymen has in all times been visited by the most severe punishment. The penalty was death among the Jews, if the maid was engaged. If a man lay with a betrothed damsel in the city, they were both stoned. If in the country, the man only. It was reasoned that in the city the maid could cry out and have help; in the country she could not. Among the Athenians, Romans, ancient French, and the English, and in many of the United States, in their early days, the offence was punishable with death. In New York, by the law of 1787, rape of a child under ten years of age was punishable with death. In 1810 it was changed to imprisonment for life. In Illinois and Massachusetts the punishment was death. In Texas it is still a capital crime; and only as long ago as April, 1888, a man was hanged, not lynched, at Gainesville, Tex., for rape. In the Isle of Man, in "ye olden time," there existed a very wise custom. The criminal was brought into a public place, and his victim was given a sword, a whip, and a ring, and his punishment left entirely in her hands. She could kill, whip, or marry him. Among the old Welsh, he who robbed a maiden of her hymen, there being two witnesses to the same, was required to present his sovereign a piece of silver as high as the sovereign's mouth and as large as his little finger.—DR. E. S. MCKEE, in St. Louis *Courier of Medicine.*

Who Struck Billy Patterson?—We see it announced in a secular paper that Dr. Alban S. Payne, formerly of Fauquier County, Va., now of St. Louis, Mo., claims to be the man who struck the genuine and original Billy Patterson. Dr. Payne claims that it occurred in this city in 1848, when a crowd of roughs coming along the street met the doctor and some companions and jostled him off the sidewalk. The fellow was a stalwart butcher, but Dr. Payne let him have it from the shoulder, and "hypnotized" him so terribly that the astonished crowd asked in utter amazement, "Who struck Billy Patterson?" They were promptly informed, in a stentorian voice, that "*I* struck Billy Patterson." This answer was satisfactory to all parties concerned.—*Southern Clinic.*

BOOKS RECEIVED.

ESSENTIALS OF NERVOUS DISEASES AND INSANITY; THEIR SYMPTOMS AND TREATMENT. By J. C. Shaw, M.D. 12mo, 149 pages. Illustrated. Price, $1.00. W. B. Saunders, Philadelphia, Pa.

RECORDS OF THE ASSOCIATION OF ACTING ASSISTANT SURGEONS OF THE UNITED STATES ARMY. 8vo, 149 pages.

EPIDEMIC INFLUENZA: NOTES OF ITS ORIGIN AND METHOD OF SPREAD. By Richard Sisby, M.D. 8vo, 150 pages. Price, $2.50. Longmans, Green & Co., New York.

THE PHYSICIAN'S READY REFERENCE ACCOUNT BOOK. Arranged by G. C. Segur, M.D. Royal 8vo, oblong, 400 pages. The Plimpton Manufacturing Co., Hartford, Conn.

LEPROSY. By George Thin, M.D. 8vo, 280 pages. Illustrated with a map. Price, 16s. Percival & Co., London.

CONTRIBUTIONS TO GYNECOLOGY. Fasciculus I. By Ephraim Cutter, M.D. 8vo.

THE COMPARATIVE ANATOMY OF THE DOMESTICATED ANIMALS. By A. Chauveau, M.D. Revised and enlarged by S. Arloing. Second English Edition, translated and edited by George Fleming. 8vo, 1084 pages. Illustrated. Price, $7.00. D. Appleton & Co., New York.

HANDBOOK OF MATERIA MEDICA, PHARMACY, AND THERAPEUTICS. By Samuel O. L. Potter, M.D. 8vo, 797 pages. P. Blakiston, Son & Co., Philadelphia, Pa.

A TEXT-BOOK OF PHYSIOLOGY. By M. Foster, M.D. Fourth American Edition. 8vo, 1022 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

AN INTRODUCTION TO HUMAN PHYSIOLOGY. By A. D. Waller, M.D. 8vo, 612 pages. Illustrated. Longmans, Green & Co., New York.

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Original Articles.

AN EARLY METHOD OF DIAGNOSIS IN DIPHTHERIA—WITH DEMONSTRATIONS.[1]

BY LOUIS FISCHER, M.D.,

ATTENDING PHYSICIAN TO THE CHILDREN'S DEPARTMENT OF THE GERMAN POLIKLINIK, NEW YORK.

THE importance of differentiating between diphtheria and tonsillitis follicularis, and the numerous mistakes which are daily made in both, is the reason that I desire to call your attention to the subject. The question also of isolating the different members of a family is of such importance, and the chances of infection so great, that any communication which could tend to establish a positive diagnosis is surely not to be discarded.

The first thing to establish in the way of a differential diagnosis, is to bear in mind the similarity of symptoms of both diseases, especially, however, of: 1. The position and most favored locality of both affections, which manifest themselves usually on the tonsils. 2. The similarity in appearance of the exudations, which sometimes are grayish-white, grayish-yellow, gray, and green. 3. The temperature. 4. The swelling of the lymphatic glands. 5. The general constitutional disturbance peculiar to both.

In diphtheria the presence of albumin in the urine should not be overlooked, although Henoch says "that its absence does not speak against diphtheria." He further says: "I do not attach any importance to the presence of a high temperature nor to the swelling of the lymphatic glands, as they are common to both diseases."

When we read over the combined works of our most prominent observers, among these Henoch, Baginsky, Oertel, Heubner, Klebs, Löffler, Jacobi, Prudden, etc., we find that all agree that diphtheria is caused by a bacterium which is a "bacillus," and for the discovery of which we are indebted to Löffler. Carl Fränkel, in his text-book on "Bacterial Diagnosis" for 1891, says: "In the course of examinations the statements of Löffler have now been positively proven, and besides, numerous other observers, among them Babes, Kalisko, Paltof-Zarniko, D'Espire, Escherich, have shown the constant presence of Löffler's bacillus in all typical cases of diphtheria, and have also found that this same bacillus exists only in this latter affection, viz., diphtheria.

Roux and Yersin have finally found, by subcutaneous injections of these bacilli into animals, that they can reproduce the same toxic symptoms peculiar to man which Löffler was not so fortunate in doing, and could produce typical diphtheritic paralysis; so that we can positively accept Löffler's bacillus as the true cause of human diphtheria.

How different are the reports on this latter subject prior to 1884. Especially is this seen by a reference to Henoch in 1881, who says (on page 618): "The microscopical examination of the membrane in question does not give any positive criterion, because epithelium, amorphous masses, and bacteria are found in both cases, to positively differentiate between diphtheria and tonsillitis follicularis."

A positive diagnosis can, however, only be made after not only the tonsils, but also the ends of the soft palate, the uvula, the corners between these and the velum, and the descending arcades of the gums are covered with white plaques.

Dr. A. Jacobi, in his "Treatise on Diphtheria," 1880, says: "I am bound to say, however, that anxious though I be for a possible future success of a parasitic theory of nosogenesis, I have not been able to change my attitude in regard to the prevalent bacteria doctrine of diphtheria. I cannot look upon the bacteria epidemic in the medical journals, particularly of Germany, with the hasty conclusions and gratuitous assumptions of scores of experimenters and writers, as anything but a calamity which I trust is but temporary."

Ten years later he says, in a paper read before the Tenth International Medical Congress in Berlin: "Still, the time has not come, when the diagnosis of a case of diphtheria in the daily run of practice can be verified by the microscope, nor is the nosogenesis of diphtheria settled beyond a doubt. Löffler's staphylococcus has been found so often and so regularly, that it is hardly possible to deny the causal connection between it and the cases of diphtheria in which it was found. Still it has been found in the oral mucus of a healthy child, once by Löffler, and again by Babes and Von Hoffman; and Löffler himself proves particularly, through the death of inoculated guinea-pigs which ensues, though the result of the inoculation remains local, that the real cause of death must be looked for in a ptomaïne. On the other hand, in America, where we have had diphtheria uninterruptedly this last one-third part of a century, T. Mitchell Prudden found no staphylococcus, but a streptococcus which he claims to be the cause of all cases of diphtheria examined by him.'

Now, there is diphtheria as a result of staphylococcus or a ptomaïne resulting therefrom, there is diphtheria as a result of a streptococcus, or rather a ptomaïne resulting therefrom; now, what does it all mean? It signifies that the diphtheritic membrane, and one or more of the symptoms of the diphtheritic process, with its mild, or severe, or fatal course, may be dependent on different micro-organisms, in the way in which Gerhardt suggested it before the Congress of Internal Medicine, some years ago.

I am glad, however, to announce that now two of the greatest observers of America and Germany, Jacobi and Henoch, agree that diphtheria is caused by a micro-organism which is Löffler's bacillus.

In the last edition of Henoch's text-book for Diseases of Children, 1890, page 710, we find the following statement: "Whether the result of Roux and Yersin obtained after experimenting with the bacillus described by Klebs and Löffler is the specific cause of diphtheria, remained to be proven. The examinations also of Escherich are not conclusive. We can, however, according to the latest examinations of Löffler, and also the latest results obtained by Brieger and C. Fränkel, positively state that the Klebs-Löffler bacillus, and more so the toxic albuminoid produced by the same, is the real cause of the mischief in diphtheria."

Baginsky, 1887, p. 189, in speaking of the diphtheritic investigations of Letzerich, Oertel, Hüter, Klebs, Heubner, and Löffler, says: "It seems that the last-named micro-organism and not the presence of the cocci, is the cause of the pathogenesis in diphtheria, and that these cocci are only to be looked upon as a secondary condition."

[1] Read before the German Medical Society, at the Academy of Medicine, New York, November 2, 1891.

It has been therefore positively proven that diphtheria is caused by a bacillus first described by Löffler, and which has the appearance of small, slightly curved rods about as long as tubercle bacilli, and twice as broad; the ends are at times swollen, spores have not been found. They do not possess any movement and do not liquefy gelatine, and have no spores. The bacillus is not found in the blood of the patient, but only in the pseudo-membranes, and most readily in the oldest portions of the same. In a dried condition, *i.e.*, in pieces of pseudo-membrane, the bacillus can be cultivated after three or four months, and it has been known to retain its vitality in one case as long as five months.

In the mouth and pharynx there has been occasionally found a bacillus resembling morphologically and in the culture the Löffler bacillus, which, however, is not virulent; it has therefore been named the pseudo-diphtheric bacillus. This last-named bacillus has been studied by Löffler and Von Hoffman. The differentiation is easy, as the reaction of alkaline bouillon is not changed by the pseudo-diphtheric bacillus, whereas in the presence of the real diphtheric bacillus (Löffler) the reaction is changed to acid.

In his paper on "Follicular Amygdalitis," A. Jacobi, on November 16, 1886, read before the New York Academy of Medicine, says:

Professor B. Fränkel read a paper before the Berlin Medical Society on "Angina Lacunaris and Diphtheritica," and says: "Such cases, however, are so rare that I cannot agree with Jacobi in this, that the spreading of diphtheria is attributable to angina lacunaris. Still there is a possibility that diphtheria may be spread through angina lacunaris, and therefore I deem it proper as a measure of caution to isolate cases of angina lacunaris."

A. Jacobi answers this with the following: "Nor do I say that every case of follicular affection of the tonsils is diphtheria, and that diphtheria in general is spread by follicular amygdalitis in general, but I claim that the name of follicular or lacunar amygdalitis is but a subterfuge for a lack of a correct or a complete diagnosis. This could, however, have been easily proven by a bacteriological examination of the exudation in question."

¶Heubner, in "Yearbook of Pædiatrics," vol. xxxiii., p. 402, speaks of cases where after a three days illness of angina lacunaris, diphtheria develops. In my opinion these cases would never have been diagnosed as angina lacunaris if a thorough bacteriological examination would have been made."

In a paper read at Philadelphia in 1888, A. Jacobi says: "What has been called follicular amygdalitis or tonsillitis, is diphtheria in many, perhaps most instances."

A. Caillé, in a paper read at the Tenth International Congress at Berlin, 1890, said: "Of fundamental importance in the study of the infection of the naso-pharyngeal spaces, is the statement of A. Jacobi, made thirty years ago, that it is almost impossible clinically to differentiate between tonsillitis follicularis and diphtheria."

In order to be positive if we have diphtheria in a given case, we must have the following: 1, a sterilized scissors; 2, a sterilized forceps; 3, a sterilized test-tube; 4, 6 to 8 agar-tubes; 5, incubator or brood-oven.

The method of examination is about as follows: We must have good light, so as to secure certainty. We then place the child in the same position as for intubation, and if restless can secure patient with a gag. We then cut a small portion of the pseudo-membrane after having seized it with the forceps, a very small piece as large as a pin-head is enough to make a stroke-culture on agar or blood-serum which has solidified in an oblique position, and is then placed in the incubator.

The ordinary temperature is enough to develop the pathogenic bacteria if present, but as it is important to develop the bacilli as speedily as possible, it is advisable to put the agar-tubes into the incubator or brood oven at a temperature of 70° to 107° F. (20° to 42° C.).

After considerable experimenting I have been able to cultivate enough cultures to determine a diagnosis in about twelve hours; the rule is, however, that no more than eighteen hours are required, so that if I inoculated my agar in the evening, I could positively have my culture the following morning. These colonies can, if the macroscopical examination is not satisfactory, be immediately examined in the hanging drop, which is easily made by mixing a drop of sterilized water with a very small quantity of a colony removed by means of a platinum-pointed needle on a cover-glass and examining it microscopically. The edges of the concavity of the glass slide are smeared with vaseline and the slide inverted over the drop; the cover-glass sticks to the smeared slide, which when turned over, holds the drop in the depression covered by the cover glass, thus forming an air-tight cell; here the drop cannot evaporate.

The narrow blender shutting off the Abbe condenser, and a drop of oil of cedar being put on the cover-glass, our specimen is ready for the microscopical examination. Or, if we do not wish to see by the last-named method living bacilli, then we can take on a platinum point a very small part of a colony and stroke it on a cover-glass, allow it to dry thoroughly, then stain it with ordinary methylin blue staining, and examine it with Canada balsam. By this method we can study the bacillus, if it be present.

I have a number of specimens here which you can examine; they are from a child which I attended, and one of the specimens is from another child sick with diphtheria, under the care of Dr. Hilke, at the German Poliklinik of this city. The specimens have been prepared according to the above-mentioned methods. You can find the Löffler bacillus very easily and also very plainly. If, however, we wish to be still more positive of our diagnosis, and do not wish to depend on our macroscopical and microscopical examinations, I have found the following method most applicable.

It is well known that certain animals are very sensitive to diphtheria, and others, rats and mice for example, are not affected at all. Here you can see a white mouse which, on October 19th, I had inoculated subcutaneously in the skin of the back, immediately over the lumbar region, with a virulent culture of diphtheria bacilli, and you can also see that the animal enjoys perfect health. From the same culture I inoculated a rabbit, on which I first performed tracheotomy, on two places in the trachea, and the rabbit died in about eighteen to twenty-four hours. I cannot say exactly how long after the inoculation death occurred, because the animal expired during the night.

The post-mortem examination of the rabbit showed: 1, serous effusions in the pleural cavities; 2, which I consider of the utmost importance, yellowish-gray plaques in the trachea; I immediately took a piece of these latter membranes, and made some stroke-cultures on agar, and after sufficient growth found the Löffler bacillus. The preparations which I now show you are from the trachea of the latter-named animal. I also show you here a guinea-pig which I inoculated in the vagina with a small quantity of a virulent culture of diphtheria. You can plainly see the membranes on the places where I inoculated. The mucous membrane shows an inflammatory, necrotic condition. From these membranes I also received, by making a stroke-culture on glycerine agar, very large colonies, which could, by the previously described staining method, be easily recognized as diphtheria bacilli.

I desire furthermore to call your attention to the cause of death of these animals, which was "diphtheritic paralysis," and this guinea-pig plainly shows this paralyzed condition on the extremities. Where I have used the words agar, or agar-tubes, I mean an agar with an alkaline reaction which contains six per cent. of glycerine, in other words a so-called glycerine agar.

In the Kaiser and Kaiserin Friedrich Children's Hospital, in Berlin, both glycerine agar, and blood-serum, are

used as culture media. For human serum, fluid from hydrocele-pleuritic effusions, etc., are used. Such is, however, only possible in a large hospital, as for example at the above-named one in Berlin, whereas, here in the city, I had to content myself by procuring serum from beef-blood from a slaughter-house, located at Forty-fourth Street, East River, of this city.

For the kind assistance at the anæsthesia of the animals, and for numerous other favors, I, with your permission, would express many thanks to Dr. Biggs. In connection with the above, I desire to state that the practical application of the method described this evening, I first saw from Dr. Adolph Baginsky in Berlin, during my service at the children's hospital; I also had an abundance of opportunity afforded me to see diphtheritic cases daily with Dr. Baginsky while he made his rounds. I have also seen severe forms of paralysis developing weeks after a mild form of diphtheria in children, showing a light form of infection. Furthermore, I have had the opportunity of observing that in children, which had been isolated for diphtheria, but where no colonies developed after the usual inoculation of our culture-tubes with membrane of supposed diphtheria, that such cases invariably proved to be tonsillitis follicularis, or something else than diphtheria. I do not believe in a streptococci diphtheria as it is described by Prudden in the *American Journal of the Medical Sciences* for May, 1889, as I invariably found the Löffler bacillus in all cases of diphtheria. I have, however, found as previously stated the Löffler bacillus in conjunction with streptococci. It is well known that bacteria are normally found in the mouth, so I have several times experimentally inoculated mice with my sputum subcutaneously, I never could find bacilli; I however found micrococci, of which species the streptococci and staphylococci predominated. If you take some of the morning sputum before cleansing the teeth, and hypodermically inject a mouse, you will find that death usually ensues in twenty-four hours from a septicæmia. On July 15th, this year, I injected a mouse in this manner at the Hygienic Institute at Berlin, and found on post-mortem examination only streptococci in the heart blood, as also in the organic fluids. On further examination of the sputum, I discovered that it contained large numbers of streptococci. From this it is easy to explain why we sometimes have a mixed infection, *i.e.*, the Löffler bacillus combined with streptococci; as the body contains several micro-organisms in the sputum, normally in the nasal secretion, in the urethra, and in the vaginal secretions in healthy persons, so it is easily explained why, under certain conditions, be they cold, trauma, in other words any subnormal condition, the reactive powers of the body are lessened to such a minimum that pathogenic bacteria can, and do, enter, causing different pathogenic conditions.

From this it is easily explained why by an invasion of diphtheria in certain families one child may be infected, several may not; or the reverse, several might be infected and one be spared.

The occasional occurrence of streptococci in the cultures can only be regarded as an accidental mixed infection or as a complication, as, *e.g.*, pneumonia, pertussis, etc., which might very often be the case. As I have very often found streptococci as secondary with the Löffler bacillus, in all cases where I have had the coexistence of diphtheria with a complication, and as most of the cases were of a fatal character, so I have come to look at the presence of the Löffler bacillus with the streptococci as a bad symptom, and consequently would give a bad prognosis in such cases. Prudden reports in 1889, 24 cases of diphtheria, in which he found streptococci in 22 cases; Löffler's bacillus he did not find in any of these cases; I will not criticise his results, for on April 18, 1891, he reports in the MEDICAL RECORD 12 further cases, wherein he finds the presence of the Löffler bacillus in 11 cases. In the same article he also describes all the published cases in Europe and America to date, in all 316 cases, wherein the Löffler bacillus was found in 302 of the latter. We can therefore only state that, although Prudden details his experiments, that the 24 cases described by him in 1889 cannot be looked upon as cases of true diphtheria.

It is therefore, gentlemen, as I have shown you, not difficult to make an early positive diagnosis by means of bacteriological examination. So also are the various manipulations so simple, that I am positively convinced that every physician can with very little trouble master the situation.

In this city, where we have so many laboratories, each and every physician can procure the necessary utensils, and it is worth while to complete the clinical examination by a bacteriological examination.

Finally, I very much desire to see in a short time, as in Europe, especially as in Berlin, in connection with every hospital a bacteriological laboratory, no matter how small, to which every physician should have access, and wherein all necessary appliances to aid everyone for the completion of the diagnosis should be placed at the disposition of the profession in general.

For numerous favors and friendly advice I desire to express to Dr. Ferguson, pathologist of the New York Hospital, my sincerest thanks, as I completed all of my experiments, as also my animal experiments, in the bacteriological laboratory of the New York Hospital.

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40 RIVINGTON STREET.

PNEUMONIA AS I SEE AND TREAT IT.[1]

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THE subject to which I would call your attention to-day is pneumonia, with special reference to its treatment and the results obtained by such treatment. Since my method differs somewhat from that of my co-laborers, and since the results attained are to me highly satisfactory, I deem it not only my privilege but my duty to make that method known, that it may be still further investigated—further than it is possible for me to do to prove its truth or falsity.

The term pneumonia I regard as a misnomer, since it may imply and include all inflammatory affections of the lungs, induced by any cause, or by any excitant. It seems as rational to call a corn pneumonia and treat it as such, as to call and treat a common cold or any local congestion of the lungs by and under the pneumonic name and method. Of our diagnosis we must be reasonably certain, or our observation and treatment, so far as the world is concerned, comes to naught.

The theory that pneumonia is the result of the deposition and development of a specific germ may be true, but the deposition and development depend in a measure on atmospheric and other influences. Most of the cases which have fallen under my observation occurred when the wind was in a northeasterly direction, and that was cold and laden with an abundance of moisture. This seems, however, to have been a condition and not a cause for the development of the pneumonic poison. To define what that poison is, and what relation it sustains to the atmosphere, would be as difficult a task for me as to define what life is, and what relation it bears to the body; yet such a thing, substance, or force exists as

[1] Read before the Central New York Medical Society at Buffalo, June 2, 1891.

life, and it does have a relation, though undefinable, to the body.

Pneumonia to me means but one distinct affection, having similar pathological changes in each case, though the objective signs and symptoms may vary much in character, depending on the progress and severity of the disease.

Before proceeding farther it may be well for us to recall some of the more prominent features of a typical case of pneumonia; thus we shall meet on common ground, and the reasons for treatment shall more clearly appear.

First comes the initial chill, which is not repeated, followed by engorgement of the affected portion of the lung, this passing gradually into red hepatization, and resolves itself into gray hepatization still later. Pyrexia begins or immediately follows the chill; the skin is dry and hot; the pulse is rapid; there is labored breathing; the tongue is dry and parched, and there is a diminution in the amount of saliva excreted; a little later comes the hacking cough, with a moderate amount of expectoration of a gluey nature and rusty color; headache, sleeplessness, and delirium are the marked nervous symptoms; the urine is scanty, high-colored, and contains a large amount of urea and uric acid, and occasionally albumin, while the chlorides are largely absent, but curiously enough, are found in the sputum. From observation I am led to believe that the delirium, restlessness, and headache are due in a large measure to the abnormal amount of urea in the system. The headache, restlessness, sleeplessness, and slight delirium, coupled with diarrhœa, which sometimes occurs, are signs which indicate the severity of the disease only—signs which, when isolated, may lead to the diagnosis of that disease of which I have heard, but never seen, "typhoid pneumonia," and of which the patient may perhaps die, of "heart-failure."

It is true the action of the heart is interfered with and the tendency toward failure is pronounced; but this tendency is due, not to loss of power in the heart-muscle, or to local lesion, or to fatigue, but is directly attributable to the action of the pneumonic poison. The precision with which this disease begins, the regularity with which it progresses, and the abruptness with which it terminates, certainly indicate it to be a systemic, self-limited disease. What this particular poison is I do not pretend to say, but the elimination of it from the system, or its destruction otherwise, is what is indicated and desired, and it remains with us to solve the question, how?

That there is a relation between the urea or urates of the system and the pneumonic poison, can scarcely be questioned, for the severity of the malady can almost be measured by the abundance of urates present. I would here venture the statement that we lessen the severity of pneumonia in proportion as we diminish the amount of uric salts in the system. The presence of albumin in the urine is directly traceable to the presence of this agent; the rule is, the greater the amount of urea the greater the amount of albumin.

To lessen the amount of the urates is the principal object, in my mind, of the treatment I am now about to suggest. It is to be observed that priority or originality of treatment is not here claimed. It is believed that others have previously used the drug of which I am about to speak, in similar cases, but its non-acceptance by the medical profession is due to causes that are to me unknown. Suffice it to say, that the conclusions here reached are based upon observations made during the last six years, or since 1884.

The drug which I have almost exclusively relied upon to combat this malady is jaborandi, or better still its alkaloid, pilocarpine, since from the latter we get a more definite and uniform action. Some of the physiological effects of this drug will now be briefly noted, then the "my why" of prescribing it will become more apparent.

Within twenty minutes after the administration of a full dose of this drug—perhaps ten minutes would be sufficient if administered by the hypodermic method—there is first a flushing of the face and skin of the entire body, which is quickly followed by profuse perspiration beginning on or about the forehead, and coupled with this comes intense salivation, which usually lasts from two to four hours, though I have observed a continuation of it for over twelve hours from one administration. The frequency of the pulse is lowered, but its force is not diminished. No depressing effect has ever been observed by me on the action of the heart, save the lengthening of both its systolic and diastolic actions. The amount of urine is largely increased, and the relative amount of urea which it contains is also proportionally increased. It has been proven that the perspiration contains urea in abundance. The drug possesses also slight narcotic and emetic properties, and to the former may be attributed, in a measure, the decline of delirium upon its administration. With the sweating comes well-marked diminution of temperature, reaching its minimum at the close of the sweating period, some six hours later. It will require from six to twelve hours more to show a very marked rise in temperature. As an anti-pyretic alone, in pneumonia it appears to me a valuable remedy and well worthy of a trial.

Having now given some of the diagnostic signs and symptoms of pneumonia; having given some of the pathological conditions which exist in typical cases; having even more than intimated the drug on which I place my main reliance; I will now try to show that we may realize in practice what we devise in theory, by relating a couple of cases that have come under my observation and treatment, and of which I have a comparatively full record.

Case I.—December 27, 1889, I was called to see J. D——, aged about twenty-eight years, from whom I received the following history: While in a neighboring village, December 24th, a few miles from his home, he was seized with a chill of moderate severity, but believing this to indicate only a cold or possibly "La Grippe," little attention was paid to it, he taking only what appeared to be an ordinary licorice mixture. As he gradually grew worse, the cough becoming more troublesome, and he showing unmistakable signs of fever, I was called in on the evening of the date above mentioned, some sixty hours after the initial chill. The pulse was rapid and marked 116; breathing slightly labored and 26; temperature, 103⅕° F. There was a persistent, hacking cough, and a small amount of rusty-colored expectoration. Physical examination revealed the fact that I had a pure and uncomplicated case of pneumonia. I will not weary you with details, but take my patient where I found him, sitting up in his chair, with a temperature of 103⅕° F.; respiration, 26; pulse, 116 on the third day of the disease. He was ordered to bed and one-fourth grain of muriate of pilocarpine was administered; if this did not produce perspiration in one hour, one-eighth grain more was to be administered. The first portion proved quite sufficient, as I afterward learned. Profuse sweating and salivation occurred in about twenty minutes and continued for nearly twelve hours, at the close of which time he received a thorough rubbing with a dry towel. Sparteine in one-twentieth grain doses was ordered every four hours to quiet the irritable heart. I saw him again about twenty-four hours later, and found the skin still bathed or covered with considerable perspiration, and cool and silky to the touch. Dyspnœa was less marked than at my previous visit; the tongue was more clear, and the patient appeared more bright. Pulse, 98 and regular; temperature, 100⅕° F.; respiration, 22; cough still exists, but is less tedious; expectoration more easy, but still containing blood. The urine, which was previously scanty and dark-colored, was now increased in quantity and lightened in color. I then ordered pilocarpine to be given night and morning in doses of from one-eighth to one-fourth grain, as might be required to produce free perspiration.

Carbonate of ammonia, three grains, was now added to the sparteine, and given three times daily. From this treatment I made no change until the crisis was reached. The evening temperature remained 100° to 100½° F.; pulse from 96 to 98; and respirations, 20 to 21. I saw him about two hours after the crisis had been reached, on the afternoon of the seventh day. The skin was bathed with a cool perspiration; the pulse, 70; temperature, 97½° F.; respirations, 20, and the tendency was toward a natural sleep. The tongue was clean, but more red than natural. Pilocarpine was now discontinued, but the carbonate of ammonia and sparteine were retained. Two days later the carbonate of ammonia and sparteine were discontinued, and iodide of iron and cod-liver oil were substituted. He was kept on this treatment for about ten days, soon after which he returned to his accustomed duties, feeling as well and strong as he did previous to his illness.

CASE II.—January 2, 1890, I was called to see J. C——, aged about twenty-five. He was taken with a chill, December 29, 1889, which he attributed to a cold. As he was not relieved by the ordinary remedies, I was sent for on the day mentioned. I found a temperature of 102½° F.; pulse, 112; respirations, 23, and other unmistakable signs of pneumonia. This might be called a typical and uncomplicated case at the outset; what developed later were mere side issues, and largely foreign to the case in hand. I found him sitting up, as in the case just mentioned. The nature and severity of the disease were pictured to him, and he was ordered in bed; I then prescribed one-fourth grain muriate of pilocarpine, to be repeated in one hour, but no more to be given till morning, when, if perspiration had not been profuse, to administer one fourth grain; if it had been profuse, to administer one-eighth grain. Digitalin, one one-hundredth of a grain, was given four times daily. I saw him again about twenty hours later; the body was still bathed in profuse perspiration; pulse soft and 100; no headache or pain of any kind; mind clear. Pilocarpine, one-eighth grain, ordered each night and morning, and digitalin four times a day; a teaspoonful of brandy three times daily was also ordered, with milk. Expectoration became easy and moderate in quantity, containing some blood. From this date and until the crisis was reached there was no perceptible change, and the treatment was not varied. The crisis occurred in this case also at the close of the seventh day, dating from the chill. I saw him some twelve hours later, when his pulse was 70; respirations, 19; temperature, 98½° F. For two days succeeding this he was apparently on the road to a rapid recovery, when he was seized with a severe attack of rubeola. This progressed favorably and had reached the period of decline, when he had a severe chill, followed by a couple of lighter ones; I was immediately sent for and diagnosed capillary bronchitis in the lung which was previously unaffected. Fearing I might again have a return of pneumonia, and desirous of thwarting it, I continued the use of the pilocarpine and digitalin with other remedies, and kept the body bathed in a moderate amount of perspiration. The young man made a good recovery, with no indications of a return of the original malady, and during the year that followed he has enjoyed better health than ever before.

These two cases, to which I have but briefly alluded, are not isolated ones. The same phenomena have invariably appeared in other cases where pilocarpine was administered. Can it be a coincidence? Is the theory tenable?

May not the pneumonic germ—name it what you will—be an agent, the office of which is to destroy the abnormal products of the system, products that produce those objective symptoms which, when taken collectively, we call pneumonia?

Let us call a halt occasionally, and ask ourselves the question. Are there not other lines of thought and of investigation than those of bacteriology, and equally as valuable? If so, then there must be other remedies equally as good, equally as valuable as the germicides.

THE PERINEUM: HOW TO PRESERVE IT.

BY N. W. RAND, M.D.,

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THE perineum, strictly speaking, consists of all the soft tissues which close the pelvic outlet; yet, to the obstetrician, that part in the female filling the triangular space between the vagina and rectum, and known as "the perineal body," is all that is of special importance.

This consists of the integument, cellular tissue, perineal fascia, part of the sphincter ani, sphincter vaginæ, and transversus perinæi muscles, the posterior portion of the triangular ligament, also part of the levator ani et vaginæ muscles, and the recto-vesicular fascia. In this body the several muscles and fasciæ mentioned blend into one firm fibrous tissue which is known as "the tendinous centre of the perineum." The functions and importance of this portion of the female perineum are obvious. It includes the muscles which control the orifices of the rectum and vagina; to a considerable extent it separates these passages, furnishing support for both, and through them indirectly aids in sustaining all the pelvic and abdominal viscera.

Indispensable as this structure is, we all know that its integrity is imperilled with every act of parturition. It seems as if Nature had here come nearer to making a mistake than in any other part of the human economy. And yet perhaps the fault is less in Nature than in our own civilization, which has so unequalized the development of various parts as to render them no longer complementary. The lower animals as a rule are not liable to such accidents, and, so far as I have been able to ascertain, they are of very infrequent occurrence among the aboriginal races of men. It is only among civilized people that we find the fœtal head developed out of proportion to the female passage. That perineal lacerations are a common cause of vaginal and uterine prolapsus, uterine retroversion and retroflexion, together with innumerable nervous and functional disturbances throughout the body, no one can doubt.

To obviate this long train of troubles accoucheurs have from time to time devised various methods of protecting the perineum from the injuries incident to childbirth. Ramsbotham and others recommend making firm pressure against it with the hand as the fœtal head descends. Leishman and Smith claim that this irritates the nerve-supply of the parts, and by reflex action excites the womb to more vigorous contractions, thus lessening the time for dilatation and tending to bring about the very accident they are striving to avert.

Goodell would have us introduce two fingers into the rectum, and with each pain draw the whole perineal body forward over the child's head. This undoubtedly would favor dilatation, as it increases the time during which force is exerted, but it retards the progress of labor and is disagreeable alike to physician and patient.

Playfair approves of the principle involved in Dr. Goodell's method, and in the following language advises a modification of it: "When the head is distending the perineum greatly, if the thumb and forefinger of the right hand are placed along its sides, it can be pushed gently forward over the head at the height of each pain, while the tips of the fingers may at the same time press upon the advancing vertex so as to retard its progress if advisable. By this means the sudden and forcible stretching of the perineal structures is prevented, and the chance of laceration reduced to a minimum, while Nature's mode of relaxing the tissues by dilatation of the anal orifice is favored." This seems to sound very plausible, but I fail to see how relaxing the tissues an inch and a half back of the vaginal opening is any relief to the tissues at the very edge of that opening. It seems to me that it would allow the head to descend upon those shortest fibres more suddenly, and so place them in greater peril. Still we must confess that this method has more to commend it than either of the others which have been mentioned.

Two years ago last July I attended a lady over thirty years of age in her first confinement. She was small in stature, closely built, and, as I had anticipated, the labor was tedious. For three or four hours I fully expected to be obliged to resort to the use of the forceps. But, delaying, as I usually do, as long as practicable, I occupied my time in dilating the vaginal orifice, which was about the smallest I have ever found; this I did by inserting two fingers and making steady traction directly back toward the coccyx. It was, of course, tiresome both for the patient and myself, but I was well rewarded for my trouble by seeing the large, long-delayed infant's head emerge from the vulva without a tear. I watched the process; the perineum slipped over the face and clasped the neck tightly, and after the birth was completed it was found to be perfectly intact.

At first I was surprised and couldn't understand how it was possible, but after reconsidering the whole case concluded that what I had termed good luck was simply the result of my persistent stretching. I tried it again with similar results; and, as opportunities have occurred, I have been trying it ever since. Having thus seen its practical results, and later, its reasonableness, I am now thoroughly convinced that in something of this kind consists the best method of protecting the perineum. One great advantage it has over even the best of the other methods referred to is, that in the accomplishment of its purpose it facilitates, while they retard, the progress of labor—a consideration of no small importance to the busy practitioner.

We all know that muscular and connective tissue will tolerate almost any degree of stretching, provided the force be applied with uniformity and for a sufficient length of time, just as the anus is dilated to admit the passage of the hand and arm in operations upon the lower portions of the bowel, and the female urethra is dilated when the bladder is to be explored.

There is no tissue of the body that will not yield to pressure when persistently applied. The bones themselves are no exception to this rule, as is illustrated every day in the facility with which dentists, by means of the elastic wedge or rubber band, move the position of teeth about at their pleasure. I do not believe that there was ever a vulval aperture so small, no matter how rigid the perineum, that it could not have been dilated, without laceration, to the full capacity of the pelvic outlet if the dilating force had been gradually applied for a considerable length of time.

There lies the whole secret, and in it we see the reason that we almost invariably tear the perineums of primiparæ in instrumental deliveries. We don't wait long enough for the tissues to stretch, and in half the cases Nature by herself doesn't wait long enough, and the same results follow.

Now, admitting the correctness of these premises, the indications for treatment are very plain, viz.: Anticipate the passage of the child by the early and thorough dilatation of the vaginal orifice. That something in this direction can be accomplished by the fingers alone I am sure. That still more might be done by some appropriately applied dilating instrument I am equally certain. Here is an opportunity for some physician of mechanical genius to benefit himself, and the whole motherhood of man, by devising the proper instrument.

But some will say, "There is nothing in it. It was recommended more than a hundred years ago by Smellie and Puzos and Roederer, and if it had had any merit it would have found its place then in obstetrical practice." I beg to differ. I grant that the physicians mentioned advocated something of the kind, but I cannot discover that it was ever given a fair trial. Glimpses of many of the most important truths now known to us have been caught and lost again by different individuals in ages past.

Anæsthesia, the *sine qua non* of modern surgery, was essentially discovered and forgotten half a score of times before its present introduction by Dr. Morton. Many of our remedies and methods of practice have shared a similar experience. No art can be said to have been irretrievably lost; the fact that a truth has been once recognized, or partially recognized, and subsequently disregarded proves nothing against it. It only proves that the majority of people have been so blinded by prejudice that they have failed to see it. The world to-day is surfeited with new ideas and improved propositions, and in dealing with them, as scientific men, we can adopt no better rule than that proposed by the great preacher of the primitive church: "Prove all things; hold fast that which is good."

A CASE OF CONGENITAL HYPERTROPHY OF THE ARM AND HAND.

By JOHN A. PRINCE, M.D.,

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The following case came under my observation for the first time in September of last year:

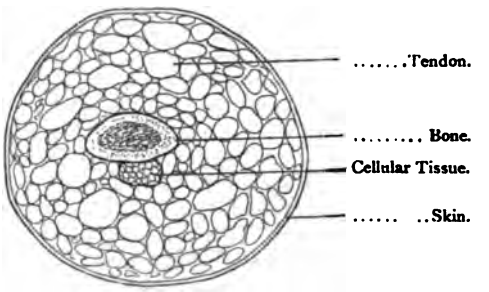
Elsie D——, aged four months, a well-developed and vigorous child. The right arm in its entirety, with the exception of the middle, ring, and little fingers, was very much enlarged, and from the parent's statement, had existed so from birth. The mother and father of the child,

aged respectively thirty and thirty-five years, as well as two other children of three and five years, were in the best of health, and presented no deformity of any kind. Besides the hypertrophy there was present a bifurcation of the index-finger about the middle of the second phalanx, as well as a web between the thumb and index-finger. The skin over the hand and arm was soft, and did not differ in appearance from the skin on other parts of the body. There was no pitting on pressure, but the tissues had an elastic feel.

As well as could be learned from this examination, the hypertrophy was general, including skin, cellular tissues, and bone. The growth of the thumb and index-finger was greatly out of proportion to the rest of the arm, and they resembled clubs more than fingers. It was extremely doubtful whether they would ever be of use, but nothing

was done at this time save the separation of the web to free the thumb, and the parents were advised to return with the child at some future time. Through neglect a photograph and measurements were not secured at this time.

On September 3d, of this year, I amputated the bifurcated index-finger, and removed a large amount of cellular tissue from about the thumb, hoping to be able to save this member and make a useful hand.



Section of Index-finger, Natural Size.

During the year that elapsed since I first saw the child the growth of the healthy side has, if anything, gained upon the affected one, though the difference is but slight. The child is very strong and vigorous, as may be seen by the accompanying photograph. The skin is still soft and flexible, and presents none of the characteristics of elephantiasis.

A section of the amputated index-finger, at about the middle of the first phalanx, is here shown, natural size. The hypertrophy is seen to be principally confined to the cellular tissue, though the bone and skin are also to some extent involved in the process. The amount of muscular tissue seemed to be decreased.

The following are the measurements:

Normal Arm.	*Hypertrophied Arm.*
Length, apex of shoulder to the end of index-finger. 12½ inches.	Length, apex of shoulder to the end of index-finger. 17½ inches.
Circumference of arm at the middle.....7 inches.	Circumference of arm at the middle .....9 inches.
Circumference of fore-arm at the middle.....3¾ inches.	Circumference of fore-arm at the middle.....7 inches.
Circumference of thumb at the base .....2½ inches.	Circumference of thumb at the base .....6 inches.
	Diameter of index-finger at the middle of first phalanx. 1½ inch.

These measurements show a difference of four and three-quarter inches in the length of the normal and the hypertrophied arm. Though comparative measurements of the length of the arm, fore-arm, and hand were not taken, inspection showed that the increase in length is principally in the hand, and nearly two inches of it may be ascribed to the index-finger.

Some difference of opinion exists as to the etiology of this strange disease, it being claimed by some to be of nervous origin, while others, among them Cohnheim, maintain that the beginning is in the embryonic tissues.

On page 210, vol. vii., of the "Annals of Surgery," is an extract from an article by Paul Wagner, of Leipzig, translated by Henry Koplik, of New York, in which mention is made of ten cases in which the hypertrophy involved the whole of one side of the body. Further mention is made, by the same author, of forty-six cases of partial hypertrophy collected by Wittelshöfer, including three of Billroth.

On page 27, vol. i., of the "Transactions of the American Orthopedic Association," is the report of a case of hypertrophy of one lower extremity, by G. N. Packard, M.D., of Hartford. This case resembles elephantiasis, however, in its being caused, as is stated in the report, by congenital occlusion of the lymphatics.

More extended investigation would undoubtedly unearth many more reported cases, but opportunity for such research has been lacking.

PARANOIA: A STUDY OF SOME OF THE MORE PROMINENT TYPES, WITH CONTRIBUTION OF THREE CASES.

By WILLIAM P. SPRATLING, M.D.,

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In all the domain of morbid psychology there is scarcely a disease whose range of morbid psychic manifestations is so boundless, and at the same time so interesting to the student of diseases of the mind, as paranoia. Much liberality of meaning is essentially bestowed upon the classical definition of paranoia when its practical application is made to morbid mental symptoms classed under that name. We cannot consistently accept its strict etymological meaning and yet allow to remain grouped under this meaning the wide range of abnormal mental displays we are accustomed to meet with in this affection.

Observing the Greek origin of paranoia from *παρα*, near to, at the side, across; and *νοέω*, to think, to be wise, we find much in it to constitute a basic description of some of the types of paranoia, while for other types, equally as well marked, it has less fitting application. While the fact may seem somewhat singular, it nevertheless remains as one well established, that in all the vast category of degenerative intellectualities, embraced in nearly every form of mental disease, we can find scarcely a symptom whose counterpart does not at some time exist in paranoia. The subjects of this form of mental alienation, it matters little what the type may be, are subject to the same cycles that fix themselves upon other forms of mental disorder. Symptomatic alterations appearing during the course of this form of insanity are not so specialized or distinct as we find them at more or less regular intervals in other psychoses. Still, in paranoia, of whatever type, we can see the varying conditions of morbid mental action appear and disappear with much regularity. A paranoiac of the ambitious type, full of expansive ideas and buoyed with hopes of fame and good fortune, will, as a cycle completes its course, feel these erstwhile living, dominating ideas recede from the field of his mental action, and be replaced by feelings far less conducive to his personal comfort and happiness. These periods of depression do not last long. The mind again becomes actively engaged in its apparently tireless work of creating alluring projects, and vivid, improbable conceptions, some of which may terminate in worthless realities. Later on a case will be described that very aptly illustrates this especial type. We find again, in that form of paranoia in which the subject judges himself to be the object of some form of persecution, much that is common, symptomatically speaking, to melancholia. This is more noticeably true, inasmuch as in each case the sufferer feels himself to be an object of persecution. The spirit in which these chimerical persecutions are received is widely different. The subjects of assumed persecutions in paranoia are aggressive, outspoken, and resentful in proportion to the extent of falsely conceived injury done them. They desire to be revenged, and oftentimes, through personal endeavors, seek to accomplish such desires. Delusions of persecution in melancholia have back of them no such elements as these. In Dr. Noyes's translation of Segla's article that appeared in the *Journal of Nervous and Mental Diseases* in March, 1888, entitled "Paranoia, Systemized Delusions, and Mental Degenerations: An Historical and Critical Review," the author says: "In fact, paranoia is a morbid constitutional form, and the delusion is only a symptom. Moreover, it is not absolutely specific, and may be found in other psychopathic forms without distinct psychological characteristics; but in these cases it is independent of the psychic constitution, and may arise under the influence of an incidental somatic cause." This statement is clear, and doubtless worthy of acceptation, so long as it does not tend to establish too great a difference

between "somatic causes" and causes we might be led to believe lie solely within the psychic constitution. Modern psychology would unhesitatingly interdict this. The boundary line between psychopathic symptoms that spring from somatic causes and those that arise purely from out the psychic constitution is extremely narrow, if, indeed, we can ever positively distinguish between them. It is easy to understand how the presence of a proper somatic cause may give rise to certain mental symptoms we designate as paranoia. Sooner or later, however, the appreciable activity of such causes may cease, and it is after the subsidence of these, the mental symptoms continuing, that we assume the psychic constitution to be responsible for the abnormal display of mental action. There has been some change in the organic base of this. When we have searched all through the list of causes capable of creating morbid mental symptoms, for the special one that gives rise to the mental features under consideration, and find it not among these, then we naturally assume the cause to lie within the psychic constitution. Indeed, this may be at all times its only proper place. Somatic causes of the most productive nature do not, we believe, at any time constitute more than incidental exciting ones, which would be harmless, were it not for the fact that "beyond the Alps there is an Italy;" beyond that in the body, which is purely material, and yet inseparable from it, there is mind. The impressionability of the higher organic elements differ in different individuals. Different psychological stimuli affect different temperaments in unlike ways. In the subjects of paranoia there seems to be a highly specialized tendency to ever put the Ego forward. It enters largely into all their distorted conceptions. It forms the basis of delusions of persecution, and it is strikingly prominent in the ambitious type, where the individual is controlled by kindlier views and conceptions of his surroundings. Those who may become the victims of that type of insanity do not, prior to their trouble, lean in a noticeable degree toward the Ego. Their attitude is most likely to be in an opposite direction—self sacrificing, interested in the welfare of others, and totally devoid of any egotistic or selfish motives. In other cases where the Ego is acquired the individual may have been in most humble circumstances, and never in a position, before the degenerative taint established itself, to speak laudatory of his acquirements.

Of the three cases I have to describe, two are of the ambitious, while the third is of the persecutory type. Of the latter I shall speak first

Case I. is that of J. S. R——, a man, aged fifty-two, married, a native of Pennsylvania, and a Presbyterian minister by occupation. An inquiry into his ancestral history shows no insanity. The family, on both sides, however, is credited with having possessed considerable nervous excitability. As a child the patient had no mental or physical peculiarities or defects. During his college life he was industrious in his habits and an excellent student. He possessed in a marked degree an aptitude for the higher mathematics, securing the honors of his class in these branches. It is interesting to note his fondness for mathematics, for later on we will see how his knowledge of this branch permeates, and is even made use of, in his morbid mental processes. As he grew into adult life he became "morbidly excitable" when mentally overworked, which, owing to his great ambition, was frequently the case. His education had been very liberal. He acquired a high degree of proficiency in the dead languages, including Greek, Latin, and Hebrew, and also fairly mastered German, Italian, and Chinese. At one time, while a resident of the Chinese Empire, he edited a secular paper in the native language. He first went to China in 1868, where he worked faithfully and constantly as an evangelist for four years, when he returned to America. Two years later he went back to his mission work in the East, where he resumed his former labors until June, 1878. Then it was, when his mental powers shone brightest, and his indomitable energies most responsive to the great work he was pursuing, he fell a victim to the mental malady that withered his brilliant intellect, warped, and well-nigh destroyed his keen perceptive powers and good judgment, and robbed him of his noble ambitions. A brother of the patient, writing about the cause of his illness soon after it began, says: "Mental strain, probably the greatest of his life, existed at a time when he got overheated while on a short excursion, and all the symptoms of mental disease developed as if by explosion." A period of maniacal excitement followed the outbreak of his trouble, and shortly afterward he was brought back to America, and in October, 1878, was placed in this asylum. The first note of his case, made October 4, 1878, was: "First positive symptoms occurred on 8th or 9th of June last. Became very much excited; was taken to a hospital, where it was necessary to restrain him. He has been for a year or two quite suspicious of the Catholics in China. Thought they were trying to stab him; thought the doctor in the hospital was persecuting him." Six months after his admission here he became perfectly tranquil and well-behaved. After remaining in this condition for three months, he was allowed to visit his family in an adjoining State, but was shortly afterward returned to the asylum because "he suspected a shopkeeper in the village of improper conduct toward his wife, and trouble followed." Nothing of interest, save the occasional cropping out of delusions of persecution, occurred during the next three years. At the end of that time distinct hallucinations of sight and hearing appeared. The appearance of these augmented his delusions. September, 1884, a note is made to the effect that "mentally he is capable of making astronomical calculations and criticising the observations of others. Has also given much attention to the various meanings of Latin and Greek roots. Is fussy and grasping, suspicious, jealous, and envious. His numerous delusions continue prominent." From that time up to the present no substantial change has been manifested in his mental condition. His life is dominated by manifold delusions of persecutions. At irregular intervals these delusions seem to inhabit the background of his thoughts, and are not subjected to involuntary expression, but these remissions are short. He remains closely in his room all the while. Up to a few days ago he had not been out of the building for two years. Each morning in his room he selects a text, and from it preaches an orthodox sermon. These sermons call forth his strongest reasoning and argumentative powers, and constitute a rehearsal of his efforts in this field fifteen years ago. After the sermon he will devote an hour or more to astronomy and the higher mathematics, covering bits of paper with geometrical figures and algebraic problems. Then comes Latin, Italian, Chinese, and Greek. When through with his books he places every one in just such a position and place, and suffers no change to be made in them. He will cease any form of occupation to tell you of his persecutions, how a fellow-patient, or attendant, when passing his door, strikes with unnecessary force the hard wood floor with the heel of his shoe, the sound resulting from which "impinges upon the drum" of his ear.

Oftentimes he will enter upon a philosophical dissertation on the propagation of sounds, when explaining his persecutions from this source. These sounds strike different parts of his body. To use his expression, he is sometimes "whacked" in the eye, on the eyelid, or on the temples by them. For three or four successive seasons a robin has built its nest in a tree a short distance from his window. He was constantly importuning that the bird be killed, since it took delight in "rasping his nerves with its twitterings." Following is a letter written by him as a complaint against a cripple fellow-patient who is forced to use a crutch. It is reproduced here to show how untenable and absurd are the grounds of his delusions, and to give a more direct impression of his ability as a ready and polished writer:

"To the Authorities of the New Jersey State Asylum at Morris Plains:

"GENTLEMEN: This is to depone that one D——, a patient of this asylum, is permitted, and has been permitted for the past four years (*circa*), to post himself *ad libitum* from morning till evening, when the weather is not stormy nor inclement, in the rear ward of the second building on the north side, and there to spend his entire time in exercising a prurient and offensive animosity. In a self-arrogated judicial capacity he inflicts with the end of his crutch, in a *quasi* 'jeu de béquilles,' delivered in a semi-sportive spirit, impacts upon the temples and tympana of deponent, and of other pious fellows, with a view to damaging them both physically and morally. The deponent, therefore, in the name and behalf of the sufferers at the crutch of said D——, and for the sake of religious and moral interest that is at stake, does hereby respectfully petition the asylum authorities that said D—— be definitely deprived of all opportunity and power to prosecute his injurious, unjust, and outrageous endeavors any further, by relegating him to a back ward, where he will find it impossible to hurt valuable health and curtail precious lives.

"Very respectfully and sincerely,

"J. S. R.

"September 8, 1890."

The complaint in this instance is based upon sounds caused by the cripple man's crutch striking the stone steps as he daily goes out into the courtyard. These instances are sufficient to show the general character of his delusions. He learns nothing modern; reads no daily papers, journals, or periodicals, save perhaps a mission pamphlet or an Italian newspaper occasionally. Like Lot's wife, he is ever looking backward. His conversations all bear upon the past. He will talk for hours on reminiscences bearing upon his life while a missionary in China, and of his college days; but of his family, home, and friends of the present he rarely speaks. His personal appearance is striking. A large, finely shaped head, full blue eyes that faithfully indicate the storm or calm within, and an agreeable suavity of manner that he seldom puts aside. The study of this man's once brilliant, but now maimed and withered, mind is not more fascinating than it is strange. To understand how such insignificant and delusive ideas dominate a mind so fraught with magnanimous impulses, with such breadth and liberality of highly intelligent views, is for us too great a task. It is, without doubt, a true degeneration, and the prognosis, as regards an ultimate recovery, is unfavorable. We do not believe that he will pass into dementia prematurely, if he retains his energies and continues to exercise his mental faculties as he does to-day.

CASE II. is that of A. F. D——, male, fifty-four years of age, unmarried, and a native of New York. His parents were both natives of Germany. His education in early life was good, comprising a complete academic course. By reason partly of his family's affluence, and partly on account of some early manifestation of mental obliquity, he never had any definite occupation. This obliquity first appeared when he was twenty years of age, and it was thought to have arisen in consequence of "disappointed affections." This supposed cause, however influential it may have been, was doubtless largely reinforced by a hereditary taint that was present in two of his ancestors on his mother's side. He resembles his mother. In disposition he was always gentle, but easily excited, a tendency that has undergone rapid development. It was stated at the time of his admission that he had an attack of insanity in Germany, in 1858, when it was necessary to restrain him. The duration of this attack is not given. It seems, however, that he had not fully recovered from it twenty years later, when the more pronounced symptoms that characterize the present attack made their appearance. During the entire period between the first and second attacks he was never free from "hallucinations and illusions." On his admission here in the fall of 1881, he was regarded as a "monomaniac on the subject of inventions," and his subsequent course up to the present time has only served to emphasize the correctness of this view. There is nothing at present eccentric, remarkable, or even strange in his general conduct or actions, save his massive ideas regarding inventions, and the abnormal enthusiasm that is engendered whenever the subject of inventions is discussed in his presence. The very mention of some new invention lends a brilliant lustre to his eye, puts his whole body in a tremor of excitement, and visibly stimulates his entire organism into a wonderful, restless activity. He speaks rapidly, punctuating and emphasizing with gestures what he says. A few compliments upon his work, or to tell him of the possibilities of his conceptions, will increase his enthusiasm, until his haste to explain this or that particular feature of an invention will make him unintelligible; sentences and even words will be but half-spoken in his haste to express them. At times the process of ideation is so forcible and rapid that he cannot bring into sufficiently rapid action his vocal powers to express the ideas created. For some seconds a rapid, incessant movement of the lips, with an occasional semi-intelligible word, is all there is to denote mental activity. This extravagant enthusiasm is only shown when he has sufficiently studied the problems involved in a new invention to determine that it is, to him at least, a safe and feasible project, "with millions in it." When lost in abstract thought over some problem that pertains to the evolution of his invention he is apt to be in a frame of mind less sanguine, and his usual display of good-nature is lacking. At such times he is mildly depressed, easily irritated, full of fault-finding, and does not care to be disturbed. During these times he suffers from hallucinations of hearing, which misinterpreted sounds his inventive genius is always ready to correct or modify. In a toilet-room on the ward of which he is an occupant a small stream of water flows constantly, and the noise made by this slight overflow, which he describes as a "system of leaks and driblets," is a constant source of annoyance to him when in this depressed condition. He has invented innumerable contrivances to correct this annoyance, one plan being the erection of a separate four-story building, a short distance from the main ward, in which shall be placed all toilet arrangements. Scarcely a fortnight for the past five years has passed during which period he has not invented something, that, to use his own words, "will bring great good to the world, and give a fortune to all who take stock in it." He will not hesitate to sell for a fraction of a dollar stock in any of his inventions, which stock he may consider worth ten thousand dollars or more. Among his inventions of late may be mentioned a "deck-seat life-preserver." This life-preserver is unique, and deserves a short description. It is made of two tin cylinders, about four feet long each, eight inches in diameter, pointed at one end, and fastened side by side. Upon them is placed a plush-covered, freely movable seat, so that in case a rough sea should upset the cylinders, the seat could be easily transferred to the uppermost side. Other inventions are: a fire escape; a cambric-covered fever pillow, that is supposed to absorb any excess of heat from the head; an alphabet of raised letters on wood for the blind; numerous in-door games for children; a means of carrying off water from the Ohio River in time of freshets; a machine for separating wheat from chaff; a hygienic tower ten thousand feet high; numerous carved wood receptacles for holding small oval clocks; a car coupler, the operation of which is a puzzle to all save the inventor; a sliding easel that elevates or lowers a picture to suit the artist; and an apparatus for executing criminals. The recent electrocution in New York State bestirred him to produce the latter. His invention provides that the person shall be killed by having a sharp steel pin driven into the back of the neck, so as to strike the medulla oblongata. It is

impossible to give the names of all his inventions, for they are legion. His mind is never free from such ideas, nor does he ever lose courage or faith in himself. His inventions, he says, "are not chimerical, but original, and, being based upon organic laws, are millionaric." He is allowed the freedom of the grounds, and spends most of his time in the carpenter shop, making models of his inventions. His health is remarkably good; his bodily functions are all normal; and his life is quietly spent, save the agitation caused by his active inventive ideas.

CASE III. is likewise one of the ambitious type, and, while differing in its elementary character, and not so prominently marked as the one just related, it possesses characteristic symptoms. It is that of W. G. B——, an unmarried male, thirty-three years of age, and a native of New York State. His ancestral history shows no insanity. As a child he had no physical defects or marked mental peculiarities; his mind at times evincing some weakness. He acquired a fairly good education, but his comprehensive powers were limited. In disposition he was amiable, kind-hearted, and mild. He worked as an ordinary laborer up to the age of thirty. Most of his spare time was spent in reading works of fiction, with a decided preference for certain authors. He was brought here in May, 1888, because "he gave up his work and desired to go into the dry goods business, although he had not a penny in the world." About the same time he acquired a belief that a wealthy family in Philadelphia was desirous of adopting him and preparing him for the Methodist ministry. It was afterward learned that his idea for desiring to go into the dry-goods business was that he "wished to make money with which to improve and fit himself to preach the Gospel." Soon after he was received here he began to elaborate his interpretation of various passages in the Bible by means of drawings that were not without some merit. He soon covered the walls of his room with odd and fantastic pictures, each one intended to be an interpretation of some annexed phrase or quotation from the Bible. His talent for drawing was not manifested until he became imbued with the desire to be an exponent of the Gospel. At one time he had a number of pictures fixed upon the wall over his bed that he intended should represent the convergence of the entire American commonwealth toward the Supreme Being. A large map of North America, roughly sketched and outlined by himself, constituted the base of the group of pictures. Just above this he placed the picture of the American eagle, life size, done by himself. Above this, the figures of two cherubs appeared to be floating in clouds. This was in turn surmounted by the figure of the Saviour, over which appeared a picture of the sun as a crowning glory. The arrangement of these pictures illustrates the bent of his ideas. His mind is inherently weak. While his demeanor is usually quiet and gentlemanly, his speech low and dignified, he is subject at times to a noticeable departure from this condition. Being required to perform some light labor in the ward, he sometimes breaks out into fits of rebellious passion, but they soon subside. His life appears to be governed by his one ambition. His confinement never seems to grow irksome to him. For two and a half years these morbid ideas have been grafted upon a mind inherently weak. We can hardly hope that they will ever be eradicated.

There is one point of difference peculiar to each of these cases. The mental instability in the first case was wholly acquired, being fixed upon a brilliant mind, free from hereditary taint. In the second case the hereditary taint was present, being indirectly transmitted; while the third possessed a mind congenitally weak. In the first case how can we account for the fact of the patient's inability to learn anything new? It would seem that the impressionability of the higher nerve-cells for new impressions has been destroyed, or the impressions that were made upon the cells prior to the disruption of their normal functionating life have become so intensified and fixed as to inhibit anything that is new. If it be that the impressionability of the nerve-cells has been destroyed, the destruction has been so actual and complete as to transcend the point where the damage may be subject to physiological repair.

THE NORMAL REFRACTION OF THE EYE.

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THE student of ophthalmology finds very many questions to interest him to-day, and they are all the more interesting because the answers given by different observers are so much at variance. The teacher, therefore, is often at his wit's end to find terse and concise answers which will satisfy the beginner as these conflicting statements are met with and bother and harass his inquiring mind.

Hardly can it be the duty of any man to set straight these crooked and devious ways, but it is the privilege of any one who cares to take the trouble to set forth his own opinions and try to untangle the ravel.

Man is essentially a builder of ideals. We try to set up the perfect image and make all else conform to it. And in many instances facts are diverted and twisted until little semblance of the original remains. We get in our mind's eye, so to speak, the road we see mapped out and travel straight ahead, each in his own way, often never looking for the rich fruit that hangs by the wayside.

It is said that an eminent Egyptologist, searching for facts, modified the results he had obtained from Egyptian monuments, in order that his chronology might not interfere with the received date of the deluge of Noah (Andrew D. White, *Popular Science Monthly*, June, 1890).

Man is a product of nature, and as such subject to nature's laws. Nature does not build rigid angles but rather rounded lines, and so the ideal in nature is rarely found; art is proverbially more perfect.

And so man in his study of the eye has set up the ideal which he calls the normal. Art has constructed an eye which we call the camera obscura, which may be made optically perfect. In many respects a similarity exists between this device of man, this work of art, and the human eye which is the work of nature.

When the camera is in position, its arrangements perfect as far as its internal parts are concerned, all that remains for the photographer to do is to get his focus. His camera, erected on its tripod, must be moved away from or nearer to the object, as the case may be. If this eye of ours was built entirely on the same plan the same methods might suffice. As we have the camera with its lens and its blackened box set on a moving machine, we might get our focus by stepping backward or forward. But nature has been kinder, and, instead of compelling us constantly to resort to this forward and backward movement, has supplied us with muscular abilities which obviates the necessity, and here the simile between nature and art ceases.

Man has set this optical machine as the model, and as the focus of the lens in the camera coincides with the sensitive plate in the back of the box, so it is said that the normal eye has a focus which exactly coincides with the sensitive plate or retina, and this while the eye is in a state of absolute rest. Therefore, if the refractive power be the same, all eyes refractively normal must have a certain definite length between the sensitive retinal plate and the anterior surface, the cornea.

This eye is emmetropic, and is accepted as the ideal eye, and while the bold statement is not made in medical books devoted to ophthalmology that this is the normal eye, it is generally understood to be the case.

Donders in his work makes the positive statement, however, that the emmetropic eye is the normal eye. And so we are not surprised that the statement is made that ninety per cent. of all human eyes are abnormal. This, then, is the keynote, ninety per cent. of all human eyes are

ametropic. This is certainly a remarkable statement, and yet if we accept the statement that the normal eye is the emmetropic, and if the facts are as stated that the emmetropic eye is one which in a state of absolute rest focuses parallel rays on the retina, then we are forced to admit its truth. We are then brought face to face with the alternative, namely, either man is an anomaly in so far as his eye is concerned, or else the standard is incorrect.

Which is the more likely? In all but this nature has endowed man with organs which in a state of health perform their functions normally and are therefore constructed normally. At least this would be the natural deduction. But with the eye, although the vast majority perform their duties normally and are capable of all things for which they were intended, yet—wonderful paradox!—ninety per cent. of them are constructed abnormally. And how do we prove this? By looking through the books devoted to this subject we find, as for example in Landolt, pages devoted to the proving of this remarkable fact. We prove it with a mass of figures that have been aptly called by Heyl mathematical fiction.

What are the facts? We are taught to recognize three kinds of eyes, namely, the emmetropic, the hypermetropic, and the myopic. We recognize still another refractive condition, namely, astigmatism; but while much has been said and written about this condition, and while it causes most of the trouble of which so much has been done in the way of discussion, and which is of all troubles perhaps the most amenable to treatment, it is not within the scope of this article to enter into its consideration. So we will lay it tenderly aside for some future time and concern ourselves only with the three grand divisions above mentioned.

For the sake of those who may not be conversant with the meaning of these three terms, and there are such, we will give an explanation of what we understand by the names emmetropia, hypermetropia, and myopia before proceeding further.

By the term emmetropia we mean that the dioptric system with the eye at rest focuses parallel rays of light on the retina—in a state of rest meaning that the accommodative power is absolutely relaxed.

Hypermetropia means that the eye in its antero-posterior axis is too short, and that parallel rays are focused behind the retina.

Myopia means that the same axis is too long, and that the focus is in front of the retina.

And so we have the hypermetropic eye on the one hand, being too short; the myopic on the other, too long, and the emmetropic, the happy medium, and neither too long nor too short, but just the proper length. Now this implies that the strength of the dioptric system is the same, the eye being in a state of rest. Of course an eye might be of less diameter antero-posteriorly, but if its refractive strength was greater than usual in a state of rest it would still be emmetropic; but as writers of text-books give the length of the emmetropic eye as being 22.824 mm., the fact that the lens might be a little more or a little less convex is not considered. And so all eyes less than this are hypermetropic; all more, myopic. The emmetropic eye, therefore, at rest is focused for distance, and for near sight calls into play its accommodative power and still maintains its focus on the retina.

The hypermetropic eye has no focus; for rays from infinity the eye is too short, and as the object viewed approaches the focus is brought still farther back, so that the only way in which this eye can see at all is by constantly making use of its accommodative power, which it does.

The myopic, on the other hand, has a positive point of distinct vision, but it is situated very near. As there is no power of negative accommodation, this eye cannot, by any effort of its own, see clearly distant objects. As this eye is too long, objects must be brought closer, so that the rays which enter the eye may be divergent. So we see that the range of vision in this eye must be very limited. Accommodative power is of little value here, in fact only increases the difficulty, and naturally in these cases we find the muscles concerned in this action illy developed. Quite the reverse from the hypermetropic eye, in which, as would naturally be expected, the muscular apparatus reaches its greatest development.

And yet this weak myopic eye, with its one point of distinct vision, its illy developed muscular apparatus and usual train of unhappy symptoms, is the eye that Landolt would have us believe is the eye of the future—the eye which marks the type of the highest order of development. We, the proud and haughty genus homo, whose mental and physical being is constantly growing and expanding, who in the rapid stride of civilization are giants alongside our ancestors, must in the end have myopic eyes. Alas, the reward is inadequate.

Now, in order that the emmetropic eye can distinctly see objects situated at infinity, it is necessary that the accommodative power be absolutely relaxed. Because if ever so small a part of accommodation be used, the focus would be brought in front of the retina, and instead of a point, circles of diffusion would be formed and the object be blurred. Can the accommodation be absolutely relaxed?

According to Donders absolute relaxation of the accommodation can and does take place, and in describing the action of atropia says there occurs diminution and soon *total* loss of accommodation. And yet at another time he makes the statement, as I understand it, that it is customary for the emmetropic eye under full atropia mydriasis to accept a + glass of scarcely $\frac{1}{60}$. Again, in speaking of the paralysis of the motor oculi nerve he says it is rarely complete, some, though slight, accommodation still remains.

Donders, in speaking of the connection between the contraction of the pupil and accommodative action, says that there is a direct relation between the two; this we accept to-day as without doubt the case. And he says that Listing observes that contraction of the pupil takes place contemporaneously with the will. Again he says that disturbance of accommodation is most distinctly revealed by deviation of the iritic movements.

Now, the action of the iris and ciliary muscle are controlled by the same source of nervous supply, namely, fibres derived from the lenticular ganglion, which receives its motor force from the motor oculi. True, it is said that stimulation of one point of the origin of this nerve will produce contraction of the iris, of another, contraction of the ciliary muscle. But the statement is not made, as far as I know, that the will can be so directed as to cause contraction of the one independent of the other.

Some investigators have claimed to have discovered fibres of dilatation in the iris, as Raettera and Picque, who believe in the active nature of dilatation governed by the sympathetics. Chauveau, Debrerre, and others, however, believe that dilatation of the pupil corresponds to a state of rest. It is not even definitely settled that accommodation is entirely due to contraction of the ciliary muscle directly and alone, as Coccius thinks that the tensor choroideæ acts directly on the posterior surface of the lens and thereby changes its form. This being the case it antagonizes in its action the rest of the muscle. Nor is it certain either that the lens is the only part of the eye concerned in its accommodative power, as we find in Donders the statement that Thomas Young, von Graefe, and Jaeger think that some accommodative power remains in the eye after removal of the lens.

Donders himself thinks that in the aphakial eye not the slightest accommodative power remains. But he qualifies this by saying that if any remain it is less than $\frac{1}{100}$, which may be considered as nothing. Be that as it may, certainly if any remain, be it ever so small, it proves the existence of a power situate in some other part. In Sajous's *Annual* of 1889 we find this quotation from Heyl: "When one is walking along the street with the mind absorbed in thought, the macula of each eye is

pointing at one point in space. In this there is no conscious exercise of the will." This is in accordance with my own observation. In this condition we may see objects before and around us but we do not recognize them. But when we desire to gain distinct vision we make an effort. We bring to bear on the object our visual lines, and there is an exhibition of will. Now, with this exhibition of will there occurs contraction of the pupil. Who shall say that there is not some accommodative power brought out to play at the same instant? Inasmuch as Donders says that the emmetropic eye under full atropine paralysis will accept a weak convex glass, it is probably true that there is. Obviously, then, this eye is not emmetropic, or if it be emmetropic now, it wasn't before. If it focuses now, under influence of the will, parallel rays on the retina, the same rays in the relaxed condition of the eye would have been focused behind the retina. This eye, therefore, must be hypermetropic. And so I make the statement, from the foregoing analysis, that the eye which under the influence of the will, which is a necessary accompaniment to distinct vision, focuses parallel rays on the retina must be hypermetropic, and that all other eyes are myopic. Arminski says that the hypermetropic eye is the normal refractive condition in the uncivilized man. But he might have included in this statement the whole human race, civilized and uncivilized.

The hypermetropic eye, too, is the eye which abounds in nature. Jaeger made the statement that the eye at birth was myopic. Ely was perhaps the first to disprove this, although at almost the same time, or shortly after, many other observers placed their proof in the field that the eye at birth is hypermetropic.

Ely examined 111 children, only six of whom were over two months old. He made satisfactory examinations in 90 children and 154 eyes. His method was as follows: He first paralyzed his own accommodation with atropia. He did the same to the eyes of the children, he also gave each child an anodyne in the form of paregoric, which, would seem a very necessary proceeding. Then with the aid of a Loring ophthalmoscope and an assistant who held the child's eye open, he conducted his observations. He found hypermetropia in seventy-two per cent., myopia in eleven per cent., and emmetropia in seventeen per cent.

Jaeger used no atropia, which may account for his error, as Ely found in 49 eyes where he didn't use atropia a much higher percentage of myopia. But in the cases in which he did use atropia, it is quite likely, as atropia does not entirely relax the accommodation, that all those put down as emmetropic were really hypermetropic, and we can safely say that hypermetropia exists in at least ninety per cent. of all human eyes at birth.

Nor are we compelled to depend on Ely's finding alone. Risley in 2,422 eyes found hypermetropia in seventy-four per cent., myopia in eleven per cent., and emmetropia in thirteen per cent. in school children ranging from eight to seventeen years of age. And if the emmetropic eye is really hypermetropic, then eighty-seven per cent. of these children were hypermetropic.

Hansen, in 1884, found 94.4 per cent. hypermetropic in 805 children. Many others have likewise published the same results.

Hypermetropia, therefore, is the normal condition and the only condition which is consistent with clear and distinct distant vision. That the majority of the human race have this is, I think, true without doubt.

Dr. Herndon, Surgeon United States Navy at the recruiting office in this city, informs me that less than five per cent. of all applicants at his office have vision less than $\frac{xx}{10}$. And so, as most of the human race have distinct distant vision, and as such vision can only be obtained by the hypermetropic eye, and as it was doubtless intended that this was the form of eye which should be part of the human race, we feel justified in saying that the hypermetropic eye is the normal eye, and while it might hardly be true to put it at ninety per cent., it is at least safe to say that the large majority of human eyes are refractively normal.

Leaving out of this discussion, as I said above, the presence of astigmatism, we have, then, two grand divisions into which we ought to divide the refractive condition of the eye, namely, the hypermetropic or the normal, the myopic or the abnormal.

Emmetropia, in the ordinary acceptance, does not exist, except as the beginning of myopia.

As Arminski says, myopia is the product of civilization developed in the struggle for existence. Emmetropia is only a stage of transition to myopia.

158 East Eighty-first Street.

Progress of Medical Science.

Massage of the Prostate.—Dr. Eberman presents the following conclusions as to the value of massage in prostatic disease: 1. It can be advised (*a*) at the decline of an acute parenchymatous inflammation where there remains difficulty in urination, the gland being still slightly swollen and but little painful; (*b*) when the acute or chronic inflammation terminates in abscess, the massage having for its object the evacuation of the pus and the resorption of the engorgement still present; (*c*) in cases of chronic parenchymatous inflammation with swelling; (*d*) in soft hypertrophy with uniform consistence of the gland. 2. Partial hard myomatous hypertrophy of the gland is not susceptible of massage; however, the massage in this case does no harm, and it can be tried, first introducing a pewter bougie into the urethra. Perhaps if the resorption of the tumor is not effected, the urethra, which has been modified by the irregularities of the hypertrophied prostate, may be again restored to proper calibre. The middle lobe of the hypertrophied prostate encroaches upon the cavity of the bladder, and by reason of its situation cannot be subjected to massage.—*Wratch.*

Cure by Operation.—In a paper by Dr. J. W. White, of Philadelphia, the interesting question of successful results following operations which are in themselves failures is discussed, and the following conclusions drawn: 1. There are large numbers of cases, of different grades of severity and varying character, which seem to be benefited by operation alone, some of them by almost any operation. 2. These cases include chiefly epilepsy, certain abdominal tumors, and peritoneal effusions and tubercle, though the improvement in the latter is, perhaps, to be explained on general principles. 3. Of the possible factors which, by reason of their constancy, must be considered, anæsthesia seems least likely to have been effective. The other three, viz., psychical influence, relief of tension, and reflex action, may enter in varying degrees into the therapeutics of these cases, and, taken together, serve to render the occurrence of occasional cures less mysterious. 4. The theory of accident or coincidence scarcely explains the facts satisfactorily.—*Annals of Surgery.*

Cystoscopy.—Dr. Wallace recently read a paper before the Medico-Chirurgical Society of Edinburgh, on the value of cystoscopic examinations, based upon an experience of over fifty cases, in which he states that the cystoscope is of the greatest value, not only in obscure bladder disease, but in renal affections as well; but he does not deem it necessary to use the instrument in all genito-urinary diseases. Fourteen tumors were included in his cases, twelve of which were operated. Five were papillomata, one a leio-myoma, and eight were villous cancers. In four of these cases, as indicated by the histories, the diagnostic value of the cystoscope is vividly exemplified. Some of the points to bear in mind in using the instrument, are: 1. To take precautions against chill, as in other examinations of the bladder. 2. The urethra must have a calibre sufficient not merely to allow the introduction of the instrument, but also to admit of free move-

ment of the instrument within the bladder. 3. It is imperative that the bladder should contain at least six ounces of clear fluid. Local or general anæsthesia if pain is occasioned. 4. The examination must be methodically and carefully made, and the whole interior of the bladder thoroughly investigated. The "anterior" instrument has the greater sphere of usefulness; with it all parts except that opposite the opening of the urethra can be examined. 5. As most affections are situated in the inferior third, it is to this part that particular attention should be directed, though ulceration of the roof of the bladder may occur. 6. When an abnormality has been discovered, the beak of the instrument must be moved into different positions to determine exactly what is seen.—*Edinburgh Medical Journal.*

The Diagnosis and Treatment of Puerperal Eclampsia.—Dr. Löhlein, of Giessen, who has made a statistical inquiry from all German clinics for the years 1888–90, inclusive, out of a total of 52,328 labors, found 325 cases of puerperal eclampsia (*The Medical Press*). The disease was most prevalent in the Charité, where it occurred once in 67 cases, and least in Vienna, where the proportion was only one in 328. Of the 325 cases, 63 died of the disease, and 14 others of complications; the mortality was therefore 19.38 per cent. The lowest mortality was in primiparæ attacked after labor (11.6 per cent.), the highest in multiparæ attacked before the birth of the child. Among the 248 who survived, 13 suffered later from psychosis, from which the majority recovered completely, and 82 from persistent renal diseases (11 cases of chronic nephritis); operative interference was called for in 71.1 per cent. of the cases; forceps, 108; turning, 19; operation for diminishing the size of the fœtus, 13; artificial induction of labor, 2; Cæsarean section, 7 times, 5 times on the dead mother, 1 on the dying mother, 1 on the living, with a successful result for both mother and child. The latter method of treatment would be in place only when the child was certainly living, but in great danger of being killed, and in which no narcotic stopped the convulsions, and when there was no other way of effecting speedy delivery. As regarded medicinal treatment, large doses of morphia deserved the preference.

A New Method of Establishing a Gastric Fistula.—Dr. Witzel, of Bonn, describes a recently devised modification of the technique of gastrostomy, which, it is asserted, will prevent the escape of gastric juice, which in many instances causes so much trouble after this operation. The object of this procedure is to establish a canal, formed by stitching together the free borders of two parallel folds of the exposed wall of the stomach. This canal extends obliquely from the right downward and to the left, where it communicates with a small opening made into the interior of the stomach, and an arrangement is thus established which resembles the lower extremity of the ureter as it passes obliquely through the wall of the bladder. It is necessary, in practising this method, to draw a large extent of the anterior wall of the stomach through the external wound. This, it is stated, can be readily effected, when the stomach is collapsed, by gentle and prolonged traction. Two parallel folds following the above-mentioned course are then taken up, the free margins of which are brought together by three or four Lembert sutures, and by numerous ordinary sutures, over a flexible tube of the thickness of a lead-pencil, the lower end of which tube is inserted into the small opening made into the stomach, while the upper end is intended to project from the external wound. The canal thus formed, which should be about one and a half inch in length, is left exposed at the bottom of the wound when the stomach is fixed by sutures to the margins of the external incision. This modification does not necessitate any change in the other steps of the operation, and the surgeon can make the external wound according to his usual practice. Witzel exposes the sheath of the rectus by an incision made parallel to, and at a distance of a finger's-breadth from, the margin of the ribs; then, as is done in House's operation, he separates the fibres of this muscle in a vertical direction, and incises the transversalis obliquely from above downward and from the right to the left. The division of the rectus thus crosses the wounds made through the skin and the transversalis. Witzel, who has operated in the manner described on two patients, has had good reason, he states, for being well satisfied with the results, and believes that his expectation of establishing a gastric fistula capable of being effectually closed by valvular action has been fulfilled.—*Centralblatt für Chirurgie.*

Clinical Department.

CLINICAL HISTORY OF THREE CASES OF TYPHOID FEVER.

By S. L. HANNON, M.D.,

WASHINGTON, D. C.

WITHIN the last two years I have met with a number of interesting cases of enteric fever. Of this number I have notes of three typical cases—two survived, the other died from the effects of exposure and the lack of good nursing.

CASE I.—Ella H——, aged eighteen. On July 24, 1889, I was called in and found the patient with a high fever (105° F.), frontal headache, tympanitic, tender abdomen, frequent pulse, coated tongue, red on tip and edges, constipation, cough, with bronchial râles. She had been sick for about one week, her nose had bled frequently during the night, she had suffered with disordered digestion and insomnia, and had had two chills, for which she had been taking patent medicine. I gave her ten grains of antipyrine every four hours for the fever, and ordered tepid sponge-baths and a liquid diet of milk and beef-tea. Turpentine stupes were ordered for the pain in abdomen, and glycerine suppositories for the constipation.

After noticing the temperature record for two or three days very closely I found it characteristic of typhoid fever; the nervous symptoms became more and more noticeable, and the patient was rapidly passing into a drowsy and stupid condition, with low muttering delirium, and impaired sight and hearing. About this time diarrhœa came on, which was troublesome, but was kept under control, and I now noticed the rose-colored spots which I could not see before. The nervous symptoms became worse. The girl would scream, pull her hair, toss, and get herself into almost all imaginable shapes. I called Dr. D. K. Shute into consultation, and rather large doses of bromides were ordered, with stimulants. I gave her one-eighth grain of sulphate of morphia at night, hypodermically, which was satisfactory to some extent. This nervous condition lasted, I thought, unusually long, but about the middle of the fourth week I noticed a marked change in favor of recovery. She began to notice her surroundings, sleep better, and take nourishment with more relish, and the pinched and prostrated look about the face was gradually disappearing. She continued to improve very rapidly, gaining in strength, and was almost ready to sit up, but during the absence of the nurse got up and walked about the bare floor to look out of the window. The next day she suffered severe pains in the lumbar region, which was evidently lumbago. A few days later on she became very contrary and melancholy, refusing to obey the orders of the nurse in any particular, and had numerous imaginary pains. At first small doses of morphine were administered, combined with other remedies, for the pain in the back. She would groan all night and at times cry and laugh and complain of the lumbago. I administered one drachm of distilled water, which had the same effect as the morphia, showing to a degree of satisfaction that her pain at this time was imaginary, and that I was contending with a case of pronounced hysteria. She refused to help herself, even so little as to turn over in bed, and would scream if any-

one would attempt to assist her, but when determination and force were used she was moved without pain. She had been in bed now nearly nine weeks and was getting in a bedridden condition. She was taken, by the request of her father, to her home in the country, where she continued to improve and became reconciled to the surroundings she had been used to, which, combined with fresh air and pure spring water, had a good deal to do with her final recovery.

Occasional attacks of melancholia recurred from time to time, but she has now recovered and has the original appearance of a healthy country girl.

CASE II.—Anna B——, aged nineteen, colored, had two chills the day previous to calling me in, which was on November 8, 1889. She had then a temperature of 105.5° F., and her nose had been bleeding profusely. On account of the accommodations I tried to get her to go into the hospital, but she instead went to the house of some colored relatives. Her temperature continued high, and the diarrhœa was severe. She was put on antifebrin for the fever and given tepid sponge-baths

On November 12th I concluded that I had another case of typhoid which might prove troublesome. This patient, like the first, had the regular typhoid symptoms, and I treated her accordingly, although the surroundings were not the best. The patient, however, did well until the eighteenth day of her sickness, when the diarrhœa became more aggravated, for which I ordered—

℞. Tinct. opii. deod..... ʒ ij.
Ol. terebinth..... ʒ ss.
Aq. camph..... ℥ iss.
Pulv. acaciæ..... ʒ iss.
M. et Sig.: Teaspoonful every three hours.

The fever was under control. I gave positive orders not to allow the girl to get up for any purpose. My orders were disobeyed. I was called out on the morning of the 28th, at four o'clock, in haste. On arriving I found the patient unconscious, gasping for breath, with a temperature of 92.5° F. The radial pulse was not perceptible. Putting my ear to the chest I could scarcely hear the heart beat. On inquiring what had happened I found that she had been allowed to get up twelve or fifteen times to relieve the bowel, and had had two large hemorrhages from the intestines. The first I did not see, the last I did; it consisted of twelves ounces of black blood. I had no time to lose, for I thought that every breath the poor girl took was the last. I immediately injected several drachms of whiskey into the arm; also administered ergot and sulphate of morphine hypodermically, but could not see that I had benefited her any; yet there was life.

I thought of a case of which I had read where ether had been used to save a life in case of post-partum hemorrhage. I had a bottle in my bag which I carry at night when called out, and at once injected several drachms into the thigh. After having exhausted all the means at hand, I now sat down, and, very much to my surprise, in a few minutes the girl began to breathe better. The radial pulse could be felt, the heart had begun to do its work. I then ordered whiskey every hour, with the following prescription:

℞. Fld. ext. ergot..... ℥ j.
Liq. ferri. sub. sulph..... ʒ iss.
Ol. terebinth..... ʒ j.
Pulv. acaciæ..... ʒ ij.
Aq. camph.....q. s. ad ℥ ij.
M. Sig.: Teaspoonful every two hours.

The girl continued to get better, and in two weeks was well enough to sit up. The sequelæ in this case were a cough, marked deafness, and cessation of the menses. The last time I heard from the patient she had greatly improved, and is now enjoying reasonably good health.

CASE III.—This case came under my care in the fall of 1890 while at Fort Stevenson, N. Dak., in the Indian service. An Indian girl had been sick for three or four days with high fever. I was called in and found her with a temperature of 104.5° F. She was of a scrofulous diathesis. Several large ulcers and discharging glands were seen about the neck and axilla. I found, as in the two preceding cases, typhoid symptoms, a short, hacking cough, severe pain in the abdomen, epistaxis, diarrhœa, etc. The nervous symptoms set in early, the delirium being of an active and noisy kind, soon becoming violent. I ordered about the same treatment as in No. 1 and No. 2, but there was lack of good nursing. The father of the girl was sent for. On his arrival he proceeded to give the girl massage treatment, a custom among the Indians, rubbing the abdomen and chest vigorously. I happened to call to see my patient just about the time that he was well under way in his treatment, and with some difficulty persuaded him to believe that he would injure his girl. The following night she had two small hemorrhages from the intestines, for which I administered ergot by the mouth. I was laboring under some difficulty as to the nursing. The patient was progressing very nicely, and was, I thought, on a fair way to recovery, when a sudden change in the atmosphere occurred, the mercury falling to ten degrees below zero. I instructed the attendants not to let the room get cold, but my instructions were not obeyed. On going into the room at twelve o'clock at night I found the nurse fast asleep, well wrapped up in Government blankets, while the patient lay in a semi-conscious condition, half-naked and very cold. The cold air was rushing up through the floor, in fact, stealing through every crevice penetrable. I made a fire, wrapped the patient up as comfortably as possible, left orders for her to have whiskey every two hours, alternating with milk, placed her in charge of the nurse, and retired. The next morning I found a change in the patient for the worse. She was breathing with difficulty, and her temperature had fallen below normal. I increased the whiskey and nourishment and had her wrapped in warm blankets. About four hours later I was called in haste and found her suffering with dyspnœa, with large quantities of red, frothy fluid exuding from the mouth and nose, the eyes were congested, and the carotids and temporals were throbbing. I cupped the girl over the chest, used sinapisms and rubefacients, gave her ammonia, aconite, and whiskey every ten or fifteen minutes; used all means that I could think of to save the poor girl's life, but all was in vain. Cyanosis soon set in, the pulse becoming more feeble, the extremities grew cold, and stupor came on, ending in coma and death.

In the first case we notice that the patient was a healthy country girl. The temperature ran high, there was slight diarrhœa, and extreme nervous symptoms were noted, leaving hysterical manifestations as a sequela. In the second case we also have a girl that had always been healthy. We notice high fever in the beginning, and troublesome diarrhœa, intestinal hemorrhage as a complication, and deafness and amenorrhœa as sequelæ. In the third case we had nervous symptoms with intestinal and lung complications. In this case there was a lack of good nursing and proper care. The complication which killed the patient, no doubt, was œdema of the lungs, caused by the exposure.

REPORT OF TWO CASES OF LAPAROTOMY.

BY E. M. POND, M.D.,
RUTLAND, VT.

CASE I. *Tubal Pregnancy, Rupture of Sac, Recovery.*—Mrs. H——, aged twenty-four, married four years; previous health good, except occasional slight pain in the right side. Menstruation was normal, and she had never been pregnant. October 1, 1890, her normal menstrual period, she had a severe cramp in her bowels, but as it was soon relieved, did not summon a physician. Menstruation did not occur. Two weeks after she was seized

with a violent paroxysm of pain situated in the lower abdomen, and running through the right side and back, terminating in collapse, a subnormal temperature, and a pulse of 120; from which she rallied after some hours. On vaginal examination nothing could be detected except an enlarged retroverted uterus.

Three days later a similar paroxysm occurred, followed by some pelvic peritonitis, with a temperature of 103° F. She began to flow a little, the discharge being watery and containing shreds of membrane. A week after she was apparently all right.

November 3d, she was seized with a third paroxysm, recurring during the next few days; she again began to flow. The pulse was 140, temperature subnormal, and the patient in a semi-conscious condition. On vaginal examination a tumor could be detected on the right side; the uterus was still larger and retroverted, with pulsating vessels about the cervix and vagina. The bowels were tympanitic, and the tenderness, at first localized in the right side, extended over the entire abdomen. The temperature rose to 103° F. The diagnosis was made of extra-uterine pregnancy, and laparotomy advised.

November 6th, the abdomen was much softer and fluctuation present on percussion; the abdomen was flat anteriorly, with tympanitic areas posteriorly. The hypodermic syringe detected uncoagulated blood.

The diagnosis was made of rupture of the sac and effusion of blood.

The next day the abdomen was opened by Dr. Packard, of Boston. The abdomen was filled with coagulated blood, and there was a large mass on the right side, which proved to be the placenta, with ruptured tube and ovary. The fœtus was not found. The mass was removed by the fingers and thermo-cautery, with but little hemorrhage, and the abdomen thoroughly washed out with warm water, and a drainage-tube passed into Douglas's sac; the wound was closed, and an aseptic dressing applied. The tube was removed on the seventh day, and the wound healed promptly. The pulse at the time of the operation was 140. After the operation the pulse and temperature ran a very irregular course for two months, the pulse reaching 130, temperature, 103.5° F., after which it returned to normal. This could be accounted for by the presence of cellulitis. The patient to day is perfectly well and healthy.

Case II.—Mrs. M. E. S——, aged forty-eight, had noticed for two years enlargement of abdomen, which caused much dyspnœa. July, 1890, she consulted a physician, who removed by aspiration fifty two pounds of clear, straw-colored fluid. From this time to November 25, 1890, nearly three hundred pounds of fluid were removed. The heart, lungs, and kidneys were normal; when the abdomen was filled with fluid the kidneys acted but little. Menstruation was regular; there was much œdema of the lower limbs, none of the upper. She was very feeble, being able to sit up but little. Nothing could be detected by vaginal examination, but by rectal examination a tumor could be detected high in Douglas's cul-de-sac. The diagnosis was made that the ascites was due to the pressure of the tumor on the iliac veins. A laparotomy was performed November 27, 1890, and a hard, nodular tumor, nearly the size of a child's head, was discovered wedged into Douglas's cul-de-sac. It was invested by a thin membrane and attached to the left ovary, which formed its nucleus; there were some adhesions. The uterus and other ovary were normal. The adhesions were broken up and the pedicle severed by the thermo-cautery; some hemorrhage followed. The abdomen was thoroughly irrigated with hot water, and a drainage-tube passed into Douglas's sac. The wound was closed and an antiseptic dressing applied; for the first thirty-six hours a large amount of bloody serum exuded, and the patient was in extreme collapse, pulse less, and vomiting incessantly black-coffee-ground-looking material. Brandy and digitalis were given by both enema and hypodermic injections. She gradually improved, and the discharge of serum completely stopped on the fourth day. The tube was then removed and the wound was entirely healed on the seventh day.

She rapidly improved and has since had no return of the ascites, and is now able to do her housework. The temperature at first was subnormal and rose to 100° F. on the third day, after which it became normal. The pulse on the third day was 100, and after fell to 80.

September 17, 1891.

A CASE OF POISONING BY CYANIDE OF POTASSIUM—RECOVERY.

By F. W. HIGGINS, M.D.,

CORTLAND, N. Y.

The virulence of cyanide of potassium as a poison, and its rapidity of action, are well known. It is stated that five grains have caused death, but in a case to which I was recently called recovery took place after a much larger amount had been taken into the system. The estimate of the amount is approximate indeed, as it must be in cases of poisoning generally; still, in this case I think the margin of error is not large.

Mr. X——, aged thirty, druggist, at the first opportunity after a sudden family quarrel, took from a can of cyanide of potassium a piece larger than a lima-bean, threw it into a graduate with two ounces of whiskey, and drank it off. He immediately began to feel queer, "as if he were only two feet high," got upstairs, where he locked himself into a small room, and threw himself on a couch. In about ten minutes his partner discovered that he was inside and had the door broken open. His face then was purple, the pupils were dilated, the breathing was puffy. The man's eyes were wide open, but he was unconscious and bathed in a profuse perspiration. Whiskey, ammonia, and emetics were administered. No vomiting could be provoked. In fact no vomiting took place until four hours later, when he began to revive and when I first saw him. No one knew what poison he had swallowed, so no special antidote was administered. He was evidently sinking rapidly, when hypodermics of ether were suggested, which seemed to have an immediate effect upon the pulse and respiration. When I arrived, in response to a telegram, he could answer questions rationally but with difficulty. The skin was still cyanosed and the pulse very feeble. He then told me what he had taken, and how large a piece. Since his recovery, which is complete, he has kindly selected for me a piece as nearly as possible the size of that he took. It weighs 19½ grains.

The drug had been in the store for over a year, but kept in a tight tin can. When we remember that at least fifteen grains were taken, about four hours after the last meal, and that no antidotes were used except stimulants, we must regard the case as remarkable.

The whiskey which he took with the cyanide very probably was a factor in the case, assisted perhaps by the hypodermic injections of ether.

Surgeons Judged by a Surgeon.—An amusing incident, at the expense of M. Desprès, the well known Member of Parliament and surgeon to the Charité Hospital, as well as the unflinching opponent of Lister and all his works, took place at a recent debate in the Chamber of Deputies. M. Pelleton, in the course of a speech, remarked that the *rôle* of the Government ought not to be like that of the patient who, suffering from an incurable malady, goes to consult a surgeon, but, arrived at the door, dare not enter. M. Desprès: "That is often the best thing he could do." M. Pelleton: "The honorable member is without doubt in a better position than anyone to know the danger one runs in seeking a consultation." [General hilarity.] The President: "I beg of you, M. Desprès, to observe professional secrecy." [Renewed laughter.]

MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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TYPHOID FEVER AND THE OYSTER.

THE aristocratic zymotic diseases have usually been found to be diphtheria, pertussis, and scarlet fever. These attack the upper classes of society relatively more than the lower. In England, however, typhoid fever has secured an enviable pre-eminence through its having found a nidus in the heir-apparent, and quite recently in his son. These distinguished and useful persons ran great danger to their lives, and this is a fact which we must of course deplore. But the establishment of the typhoid lesion in the royal ileum did, on a former occasion, give a great impetus to the study of the disease, and more particularly of sewage and plumbing. The recent illness of Prince George has started investigation in a new line; for it has been intimated that he contracted his fever by eating oysters gathered from beds poisoned by sewage. In consequence of this, it is stated that the consumption of oysters has fallen off one-half in London. As the United States is a much greater oyster country than England, there is no doubt that investigations of our oyster-beds will be made. It is most improbable that any dangerous and unsanitary conditions will be found. There are, so far as we know, no large oyster-beds in the neighborhood of large towns or their sewage outlets. Besides this, typhoid fever generally begins to lessen in amount as the oyster season starts in. Still, a bacteriological study of the oyster might prove interesting.

THE HEALTH OF TRAINED NURSES.

THE popularity of the trained nurse is not in any way diminishing. We learn that another training-school is to be organized in connection with one of the hospitals of the city, and in the report of one of the already established schools it is stated that not half the calls could be supplied. In this same school there were four hundred applicants for positions as pupils, from which number only twenty-five could be selected.

We note one statement, however, of rather unfortunate significance. In a school containing about fifty pupils the average number constantly sick was about three per week, or six per cent. Now, the average sick-rate of selected adults is very much below this. In ordinary benefit societies, for example, there are less than three constantly sick to every death, and this includes a very wide range of ages. It seems as if nursing was a peculiarly severe tax on the physical strength of women, or else that the methods of training nurses and of caring for their health are lacking in some ways. Young women who are enthusiastic and earnest in their work are usually very forgetful of their own comfort and health. Those who engage them are also often thoughtless, expecting that a professional nurse should endure any amount of physical fatigue and strain. The work itself of the nurse is not essentially healthful, but rather the reverse. All these facts should make it incumbent on those managing training-schools, to select only healthy young women as pupils, and to instruct them sedulously as to the importance of caring for their own physical condition.

DISAGREEING BACTERIOLOGISTS.

THERE is a beautiful "row" in the German bacteriological world, and all about tuberculin. Professor Koch, in his recent communications about this interesting substance, reproaches his colleagues for not making investigations themselves instead of waiting for him to finish the work. He ignored the fact that such work had been done by Cheyne and Hunter, Nencke and Hammerschlag, and others. Therefore Professor Koch now receives a merited visitation of wrath from Professor Hueppe. This latter gentleman asserts that Koch's two recent communications contain nothing that had not been independently shown by others, while they do not go so far even as other work has in the isolation of the active principle of tuberculin. He quotes Professor Koch's earlier criticism of M. Pasteur against his own present methods of publication of his researches. Finally, Dr. Hueppe deals severely with the accusations brought by Professor Koch against bacteriologists in general, and shows how ill-founded they are.

DO DOCTORS DISAGREE?

THE *Medical Mirror* reprints from a recent issue of the *Sunday Mirror* the following comments upon the recent meeting in St. Louis of the Mississippi Valley Medical Association: "The Mississippi Valley Medical Association favored St. Louis with one of its official sittings and as usual when there is a gathering of the sons of Æsculapius much bad feeling cropped out among the resident medicos. A few saw in the preliminary arrangements for the reception and entertainment of the delegates an effort to boost a certain college into undue prominence; others detected a movement on foot to extend the hand of professional fellowship to a member of the surgical corps who was personally distasteful, or whose reputation was too brilliant, or because the methods by which he managed to have himself constantly written or talked about were not in accord with the strict requirements of professional etiquette. Some had one excuse and some another for frowning upon the whole thing and withholding their patronage and gracious presence from the assemblage. All of which, it may be remarked with truth, was exceedingly silly and childish, and not calculated to reflect a particle of credit upon those who sulked in their offices and planted themselves on their professional dignity."

Our well-burnished and reflective medical contempo-

rary makes some comments upon the foregoing which are unjustly and unnecessarily apologetic. The rather prevalent idea that doctors are always quarrelling and disagreeing is one which has been handed down from ancient days, but is not true of the educated profession of to-day. There was a time perhaps when consultations were just short of free fights, and when disagreement and disputation over the sick-bed were the rule. This is certainly not the case to-day, except, perhaps, in some darkly shaded areas of the earth's surface. We have even heard it said that Chicago physicians were stalwart supporters of each other's character, and if it were not for Cook County Hospital a millennial peace would prevail over the crust upon which the tall buildings of that city vibrate. And St. Louis cannot be behind Chicago in matters of social intercourse and the higher ethics. The very numerous meetings of medical men throughout the country are, with few exceptions, conducted with dignity, and discussions are rarely acrimonious. Doctors do sometimes disagree and quarrel, just as the rest of the world does, but for a class of men thrown in contact with each other as often as is the case with physicians the amount of disagreement and ill feeling is not great, and with increase in enlightenment it is growing smaller.

We contend that the old adage that doctors always disagree is not applicable to the modern profession, and we regret that our St. Louis contemporary does not take this view. Is there an extra acidity in the atmosphere of the Mississippi Valley?

TUBERCULOCIDIN.

While Koch believes that tuberculin has no destructive effect on the bacillus, recent work by Klebs seems to show that this may not be entirely the case. Klebs has isolated a substance from crude tuberculin, which he calls tuberculocidin, and which is claimed to act specifically on the bacilli. The tuberculocidin is an albumose, and it, or its combinations with tannin or other precipitants, has an undoubted effect in tuberculosis, never exciting fever, and producing marked improvement. Hectic and night-sweats disappear; signs of catarrhal process in the lungs, together with cough and expectoration, rapidly diminish; appetite and body-weight increase. The bacilli in the sputum are said to become granular, and less and less capable of receiving the staining reagents, and finally disappear. In observing the effects of the use of this "tuberculocidin" Professor Klebs is being assisted by Dr. C. Spengler, of Davos, and Dr. Nolda, of Montreux.

THE PAN-AMERICAN MEDICAL CONGRESS.

The Committee on Permanent Organization of the Intercontinental American Medical Congress, which met in St. Louis in October, did some excellent work. It may now be regarded as settled that the Congress will be held, and if the Committee acts as wisely in the future as it has in the past, there can be little doubt of its success.

There was at the start a slight unpleasantness arising from a misunderstanding in regard to a delegate from one of the public services, but it was only an incident, and as the Committee was seemingly in the right in the action it took, nothing more need be said about it. One excellent move was the discarding of the clumsy title, "Intercontinental American Medical Congress," and the adoption in its stead of the more familiar and euphonious "Pan American Medical Congress." Washington was very properly adopted as the place of meeting of the Congress, and the first Tuesday in October, 1893, was the date selected. The rules for the government of the Congress are to be printed in English, Spanish, and French, but why the last-named language was selected, while Portuguese was omitted, is not very apparent. French is spoken in a portion of Canada, in some of the smaller West India Islands, and in a narrow strip on the coast of South America, whereas Portuguese is the language of the largest and one of the richest and most progressive of the South American republics. If French is admitted, why not also Dutch, since several of the islands in the West Indies, as well as one division of Guiana, belong to Holland. We do not know whether the deliberations will be allowed in these three languages or not, but hope that they will be restricted to English and Spanish. These are the preponderating tongues on this continent, and confusion can only arise from making the Congress a polyglot affair.

This is, however, a minor detail. The Congress is to be held, and we hope and believe it will be a success and will help to draw closer together not the physicians alone, but all the members of the two great races who people this immense continent. And whether the proceedings be in two languages or twenty, the Medical Record will be on hand as usual, and will present its readers with a full and accurate report of all that is said and done.

VAGARIES OF THE HUMAN TEMPERATURE.

Some wonderful stories have been passing through the medical press concerning high temperatures of the human body, so high as to be beyond measurement by the best registering thermometers procurable, the ordinary clinical instruments, graduated up to 115° F., being shattered by the expanding mercury. Indeed in some cases, if we may believe the concurrent testimony of several reliable witnesses, the blood was nearly at the boiling-point, and the hot room of a Turkish bath would have been, as it were, a refrigerator to the hyperpyrexic individual. What became of the albuminous constituents of the circulatory fluid under these circumstances is, however, not stated.

Now, while we may be permitted to doubt the accuracy of these observations of such extreme cases, being forced to believe, not in the dishonesty of the observers, but in the presence of some fallacy undiscovered by them, there are, nevertheless, a number of instances on record, usually in hysterical persons, in which the thermometer registered from 110° F. to 115° F., whatever the actual temperature of the patient may have been, where the accuracy of the observations cannot be questioned. There was a case of the sort seen in a hospital in this city in 1877 or 1878, in which repeated observations made by different physicians with different instruments, under the most careful scrutiny to detect fraud, gave a temperature of 112° F. to 115° F. We do not remember ever seeing a published report of the case, but it was seen by a number of physicians in the city, and the notes are recorded in the

case-books of the hospital. If the thermometer in these cases is a true index of the actual temperature of the patient's body, then we must revise the dictum which makes a recorded temperature of 110° F. one of fatal prognostic import.

Another even more curious freak of temperature is recorded by Dr. J. A. Austin in *The Lancet* of October 24, 1891. A primipara, twenty-six years old, of a remarkably cool, unexcitable temperament, was confined on Sunday, October 4th. "Labor was normal, and the case progressed without one bad symptom till the following Saturday, even the infant exhibiting a disposition to take things easily, so unlike new-born cherubs. On the Saturday, however, there was a temperature of 102° F. in the right axilla; pulse 80; skin cool; respiration easy; lochia and milk normal; no constitutional disturbance whatever. The temperature was then taken in the left axilla, and it was normal. The following day the thermometer registered 104° F. in the right axilla; normal in the left. On Monday it fell again to 102° F., and on Tuesday it was normal on both sides. From beginning to end the patient was singularly free from bad symptoms, and made an uninterrupted recovery."

Another singular case of unilateral elevation of temperature was reported in *The Lancet* some five years ago. The patient was a young woman who was admitted to the Edinburgh Infirmary complaining of dizziness and pain in the left side, and with a purpuric rash covering the lower extremities. Soon after admission she had a fright, and on taking her temperature that night the physician found that the mercury stood at 111° F. The next day at four P.M. the temperature was taken with a thermometer in each axilla, the one on the right side indicating 108° F., that on the left 99.4° F. Near midnight of the same day this was almost exactly reversed, the temperature on the right side being 98° F. and that on the left 108° F. It varied in this way for several days, first one side, now the other, indicating several degrees, in one case more than 12, higher than the other. The subsequent history was one of hysterical pains, wild delirium, etc., from which the patient finally recovered, still remaining emotional, however.

Professor Horsley stated at a meeting of the Neurological Society of London that he had found, from an analysis of some eighteen cases seen by him, that a notable difference in temperature of the two sides of the body occurred in cases of brain disease in which the lesion was situated in what he called the corpus striatum frontal plane of the hemispheres, this passing, on the surface of the cortex, through the ascending frontal gyrus. With rare exceptions in these cases the rise of temperature was on the side of the body opposite to the lesion. Dr. H. Percy Dean said at the same meeting that in certain cases of compression of the brain there is a difference in the temperature of the two sides of the body, the higher temperature being on the same side as the compressed area when that was large, and on the opposite side when it was small.

In the case reported by Dr. Austin, however, there was no hysterical element, neither was there any evidence of brain lesion as in the cases analyzed by Mr. Horsley. The solution of the problems raised by very high temperatures in hysterical persons, and by the occurrence of unilateral temperatures, is one that can be made only by means of much clinical and experimental work. But the problems are exceedingly interesting, and will amply repay study and painstaking investigation.

A NEW DIAGNOSTIC SYMPTOM OF CARCINOMA OF THE STOMACH.

In the *Revue de Médecine*, October, 1891, Dr. R. Lépine dwells on the not infrequent difficulties in making a diagnosis of cancer of the stomach, and states that one important and characteristic symptom is a diminution in the globular richness of the blood. This symptom is particularly helpful in distinguishing cancer from pernicious anæmia, because, as he states, in the latter disease the globular richness of the blood is not lessened. He finds that in gastric cancer the diminution of the blood-cells often reaches as much as one-half; and in that respect differs from the ordinary anæmic conditions associated with nephritis, phthisis, rheumatism, etc., where the loss of red blood-globules, though present, is less marked. Dr. Lépine cites the investigations of Benoist-Jeanin in support of his view, and reports the histories of six cases of cancer of the stomach, in which the number of blood-cells ranged from 1,500,000 to 2,000,000, or more rarely 3,000,000, cells per cubic millimetre. This condition, Lépine admits, does not occur until the disease is "a little advanced," and hence its value as a symptom cannot be considered a very high one.

News of the Week.

Vaccinated Against Snakes. — Dr. Jacolot, in "Archives of Naval Medicine," states that at Tuxpam, on the Gulf of Mexico, there are men called "Curados de Culebra" (safe from vipers), who may be bitten by venomous snakes without effect, as they have been previously inoculated with the poison of these animals. Jacolot relates, in detail, how these vaccinations are practised. The patient takes first the bulb of a native plant called "mano del sapo" (toad's hand), a Dorstenia. Then the inoculation is made with the venom-tooth of one of the most poisonous snakes. Dr. Jacolot was at Tuxpam in 1867, and found this preventive inoculation an old practice among the natives of that region.—*The Satellite.*

Dr. G. D. Dunham, of Plattsburg, N. Y., died on November 29th, of heart disease.

Mr. Wharton Jones, of Ventnor, England, well known for his physiological and pathological studies, died on November 2d, aged eighty-four.

Professor Billroth on the New Rifle.—In a recent lecture Professor Billroth spoke on the effect of the new rifle in war, and declared that the ambulance department in Austria would be absolutely inadequate to deal with the vast number of the wounded.

In Founding Koch's Institute for Infectious Diseases, Dr. von Gossler, then Prussian Minister of Ecclesiastical, Educational, and Medical Affairs, stipulated that all the investigations made there should be published. The first publication saw the light a week or two ago in the

Deutsche Medicinische Wochenschrift, and its author is Professor Ehrlich, who has long been one of Koch's fellow-laborers. It treats of abrin, a poisonous albuminous body, against the noxious effect of which animals can be rendered immune by strong dilutions of it.

The Number of Medical Students in Germany.—The number of students who matriculated in the twenty universities of Germany and the Academy of Münster last term, was 28,515, of whom the largest contingent—namely, 8,916—were students of medicine.

The Snake War in India.—In the year 1890 the snakes of India killed 21,412 people, while people killed 510,659 snakes. The people, mostly natives, are therefore ahead, but the snakes are making a serious fight and many heels are chronically sore.

A Dispensary for Medical Mesmerism is one of the advertised features of the metropolis. It is conducted by a clerical gentleman, who has of course had "thirty years' experience." Yet medical mesmerism is a little more honest than faith-cures and the laying-on-of-hands.

Baldness and the California Climate.—According to the veracious chroniclers of the daily press, residents of California mostly get bald and lose the goodness of their teeth before they are forty. Yet we are also told that in California there is no phthisis, arteritis, apoplexy, or premature senility. One must take the choice, then, between long life and a toothless one, or a short life with plenty of hair and molars.

A Bogus Medical Diploma Mill.—The Cincinnati papers announce the arrest of a Dr. (?) Van Vleck on the charge of issuing medical diplomas, the institution that issues the diploma going by the name of "The Medical University of Ohio."

To Secure Medical Legislation for Ohio.—The *Cincinnati Lancet-Clinic* announces that the physicians of Cinnati have appointed committees to act together for the purpose of obtaining medical legislation this winter.

Verdict Against a Druggist.—In a suit for $10,000 damages brought against a Brooklyn druggist, in consequence of the substitution of corrosive sublimate for chloral hydrate in a prescription compounded by a clerk in his shop, the jury has awarded the plaintiff $4,000 damages. The clerk actually put up four drachms of bichloride of mercury (twenty grains to the dose), in place of the chloral ordered by the prescription. Fortunately, the patient vomited nearly all of the dose he took, but he made a narrow escape with his life, and still continues to suffer from the effects of the poison.

A Question of Satisfactory Result of Fractured Patella.—A case of interest to surgeons came before the Supreme Court of the State of New York during a recent session in Plattsburg. In May, 1888, a man, by a kick of a horse, suffered rupture of his left ligamentum patellæ. A surgeon attended him for two months or more, during a portion of which time the patient did some of his farm work. The union proved to be ligamentous, and was, perhaps, two and one-half inches long. The patient brought suit to recover $10,000 for malpractice. At the close of the prosecution, counsel for defence moved a non-suit on the ground that the evidence had failed to show that the present condition of patient's patella was in any manner due to neglect or non-skilful treatment on the part of defendant. After some argument, the Court decided to hear the defence and then give an opportunity for renewal of the motion. Much valuable expert evidence was given, to the effect that the result was a fair average, and that the defendant had properly treated plaintiff's fracture. As the evidence of both plaintiff and his expert was substantially the same as that of the defendant and his experts, the Court directed the jury to bring in a verdict of no cause of action.—*Boston Medical and Surgical Journal.*

The United States Medical Practitioners' Protective Alliance.—The *Maryland Medical Journal* says editorially: "According to the published statement of the Medical and Chirurgical Faculty of Maryland (in its Transactions for 1890, p. 119), the 'founder' of the 'United States Medical Practitioners' Protective Alliance' was expelled in April, 1890, from the State Medical Society of Maryland, for violation of its Code of Ethics (identical with the Code of the American Medical Association); the offence, which is not there stated, being that he advertised himself in the daily papers, giving as an endorsement his membership in the Faculty, and refused to discontinue advertisement. The 'President' of this 'Alliance' is now (according to a hand-bill distributed through the city, of which a copy is now before us) Medical Director of the 'National Bureau of Medical, Surgical, and Hygienic Relief of Baltimore City,' the successor and heir of the 'Bureau of Medical Relief' whose principles and practices, as stated in the editorial columns of the *Journal*, September 12, 1891, are utterly condemned by all physicians of standing in Baltimore with whom we have conversed on the subject."

London Pauperism.—Census of metropolitan paupers, exclusive of lunatics in asylums and vagrants, taken on the last day of the weeks named hereunder (enumerated inhabitants in 1881, 3,815,000): First week of November, 1891—indoor, 57,581; out-door, 32,425; total, 90,006. First week of November, 1890—indoor, 57,552; out-door, 33,766; total, 91,318. First week of November, 1889—indoor, 58,354; out-door, 35,556; total, 93,910. First week of November, 1888—indoor, 58,834; out-door, 38,747; total, 97,581. (These figures exclude patients in the fever and small-pox hospitals of the Metropolitan Asylum District, the number of whom on the last day of the week was returned as 1,795 in 1891, 2,407 in 1890, 1,691 in 1889, and 1,000 in 1888.) Vagrants relieved in the metropolis on the last day of the first week of November, 1891: Men, 703; women, 196; children under sixteen years of age, 23; total, 922.

Decimal Weights and Measures.—A communication has been received from the British Consulate at St. Petersburg to the effect that in Finland the use of metric weights and measures will shortly be compulsory. For some time past there has been a decimal coinage, and the metric weights and measures have been obligatory for the Custom House, the State railways, the Post-office, and pharmaceutical chemists, but after December 31st next, the old system of weights and measures will no longer be permitted in any public or private establishment. The measurement of public roads has already

been changed from versts to kilometres. In Russia the metric system of weights and measures is already used by medical men and chemists.

Dr. Edmund Charles Wendt, our Riviera commissioner, while in London, entertained at dinner, at the Savoy Hotel, Mr. Ernest Hart, of the *British Medical Journal.* Among the other guests were Mr. Harold Frederic, Mr. Frank Marshall White, Mr. Bloomenfield, all of London, and Mr. Richard L. Kemble, of New York. Sir Morell Mackenzie was unavoidably absent, owing to a recent indisposition.

The Influenza in Europe.—Influenza in its most virulent form is raging in Bordeaux. Few families are exempt from the sickness, and many deaths, principally of aged people, have occurred. The number of cases of influenza in St. Petersburg has increased so rapidly that there is now quite an epidemic. The city hospitals are full of patients. Two years ago the disease was almost exclusively among the poor, but this year it claims its victims chiefly from the higher ranks of society.

An American Magnet in London.—The performances of Miss Abbott, the so-called "Georgia Magnet," are the latest craze in London. The medical faculty declare themselves to be non-plussed concerning her mysterious powers. Twelve years ago the readers of the RECORD were fully informed as to the scientific merits of this performer in the Lulu Hearst line of trained muscle-reading. A great many Londoners are not yet readers of the RECORD, or there would be less stir about our countrywoman, whose exhibitions in New York, it will be remembered, fell rather flat, and were fully exposed in the medical and lay papers.

The Medical Society of the Missouri Valley.—The next meeting of the Medical Society of the Missouri Valley will convene in the City of Lincoln, Neb., Thursday evening, December 17th, and continue in session on the 18th.

The Next International Medical Congress.—It is considered likely that the date of the next meeting of the International Medical Congress, which is to be held at Rome in 1893, will be fixed for September instead of Easter, as at first proposed. The Organizing Committee has not, however, yet come to a final decision on the subject. Professor Baccelli is the President, and Dr. Maragliano the Secretary-General of the Committee. The following are the Sections of the Congress, with their respective Presidents: Anatomy, Dr. Antonelli; Physiology, Drs. Albini and Albertoni; Pathology, Drs. Foà and Bizzozzero; Therapeutics, Dr. Cervello; Clinical Medicine, Drs. Baccelli, Murri, Bozzolo, and Maragliano; Surgery, Dr. Bottini; Obstetrics, Dr. Morisani; Psychological Medicine, Drs. Morselli and Tamburini; Ophthalmology, Drs. Secondi and De Vincenzi; Dermatology and Syphilography, Drs. Campana and Barduzzi; Forensic Medicine, Dr. Tamapia; Hygiene, Drs. Pagliani, Banalis, and Belli. Many applications for membership have already been received, and the attendance is expected to be very large.

The Seasonal Prevalence of Typhoid Fever.—The *British Medical Journal* of November 19th says: "There is much reason to fear that the autumnal increase in the prevalence of typhoid fever, which long experience has taught us annually to expect, is this year of more than average severity. There are few things about the infectious fevers more striking than their seasonal prevalence. We know that some—such as typhoid fever and diphtheria—are due to infection by specific microbes, and we surmise the same to be true of all. We know also that the insanitary conditions which favor the spread of the infective principle of typhoid fever are always present—in March and April, as widely as in October and November, yet the number of cases in the former months is scanty, in the latter large. The fact is so well known that it is hardly necessary to prove it; but if further proof is wanted, it may be found in the Statistical Report of the Metropolitan Asylums Board published this week. The admissions of patients suffering from typhoid fever have been recorded month by month since 1872; the numbers, it is found, have fallen to the *minimum* three times each in March and April, five times in May, seven times in June, and once in July; they have risen to the *maximum* once in September, eleven times in October, six times in November, and once in December. In tropical and sub tropical regions the hot months are the typhoid season."

Frequency of Criminal Abortions.—Judging from the reports in the daily papers, criminal abortions are quite frequent. It is a comfort to know that the practice is limited to irregular practitioners, who are duly apprehended when the regular medical man is finally called to the dying patient. And yet there has not yet been found a way to prevent the advertising of the scoundrels in the leading public journals.

The Meeting of the Italian Surgical Congress was held in Rome from October 25th to 27th, under the presidency of Professor Durante, Senator of Italy.

Malpractice for the Opium Habit.—A medical gentleman of Dakota has been sued for malpractice in causing the opium habit in a patient. If this should hold, how many suits might be brought for the alcohol habit?

Monument to Dr. Henry Bennet.—Mentone, France, is proposing to erect a monument to Dr. Bennet, "who did so much to promote the prosperity and welfare of that admirable resort."

The Dispensary Abuse.—We are pleased to see that the daily papers are agitating the question of dispensary abuses, and are taking sides with the younger practitioners. Numerous instances are related in which well-to-do patients crowd the waiting rooms, simply because they can get the best advice from experts for nothing, and without question. It is too bad, but it is true. Many of our hospitals do the same, and will be foremost in claiming numbers of so-called paupers treated when the hat goes around for the annual hospital collection, so near at hand.

Another Death from Chloroform has been reported in London at the King's College Hospital. The operation to be performed was a trivial one for suppurative cellulitis of the leg. The patient, a male tramp, aged twenty-six, was recovering from a drinking bout, and had not partaken of food for three days. At the autopsy fatty liver and fatty heart were discovered. Death was sudden and without warning.

Society Reports.

AMERICAN PUBLIC HEALTH ASSOCIATION.

Nineteenth Annual Meeting, held in Kansas City, Mo., October 20, 21, 22, and 23, 1891.

FIRST DAY, TUESDAY, OCTOBER 20TH.

THE Association convened in the auditorium of the Warder Grand Opera House, and was called to order at 10 A.M. by the President, Frederick Montizambert, M.D., F.R.C.S., D.C.L., of Quebec.

Prayer was offered by the Rev. Samuel N. Neel.

After considerable preliminary work, the reading of papers was proceeded with.

The Cause and Prevention of Infant Mortality.—DR. C. D. MCDONALD, of Kansas City, read a paper on this subject. He gave statistics showing that infant mortality soon after birth was twenty per cent. One of the principal causes was the exposure to a low temperature—a chilly room—soon after birth. He had been present when it was necessary to wear an overcoat in a room where a newly-born child was exposed to bathing. Forcing sleep by soothing syrups to overcome the effects of this exposure was another evil. Another trouble was the forcing of food, such as crackers, and water, and whiskey into the young, inert stomach of the newly-born. The mother who refused to nurse her child from selfish reasons deserved the censure of the community. Statistics show that in the first year the infant mortality, when the child is fed by artificial food, is fifty per cent. With natural food the mortality was but ten per cent. The best artificial food was the pure cow's milk. Sterilization by chemical process was not thoroughly a success because vital principles cannot be supplied by chemical process, but sterilization was preferable to impure milk.

No starchy substance could be digested in the infant stomach. Starchy infant food is converted by the chemical processes of the stomach first into sugar, then alcohol, and then acetic acid. No sensible farmer would attempt to feed a calf hay. Hay is the natural food for a cow as much as solid food is for a man. Improper dressing—thin clothes—was also a prolific source of infant disease.

PROFESSOR W. W. DANIELLS, of Madison, Wis., thought that no one should be allowed to sell milk in cities unless he put his dairy establishment under the control of the sanitary authorities.

Glanders in Man was the subject of a paper by DR. JOSEPH SHARP, of Kansas City, Mo. The doctor classed glanders with acute infectious diseases, such as tuberculosis. The especial feature of the paper was a report of a case which occurred in his practice, and in which he pointed out the difficulty of diagnosis in this obscure disease and gave an outline of the methods for microscopic examination, together with the best methods of cultivating the bacillus of glanders. The paper recommended that, for preventing glanders, persons who came in contact with horses having open sores or discharges from the nose should disinfect the hand with a solution containing a tablespoonful of equal parts of glycerine and carbolic acid in a quart of hot water, or ten grains of corrosive sublimate in a quart of water. In his report of the fatal case which he had treated, that of a painter who became inoculated through a sore on the hand while handling an afflicted horse, the speaker aroused much interest.

DR. PAUL PAQUIN, of Battle Creek, Mich., in the discussion, reported a collection of seventeen cases of glanders in man, which he had collected in the State of Missouri while living there. As an instance of the virulence of the poison, Dr. Paquin told of one man who, driving behind an affected horse, was struck in the eye by a spray from the beast's nostrils, a case of glanders developing rapidly and terminating in the man's death.

The Necessity for more Stringent Legislation to Repress Empiricism.—This was the title of a paper by CHIEF JUSTICE HORTON, of Kansas. He said that the mountebank of the nineteenth century, with brazen face and clarion voice, travels the length and breadth of the land proclaiming himself as Diamond Dick, Indian Bill, Big Chief, or by some other equally euphonious and ambiguous title, as he asserts his skill and disposes of his wares. It might not be justifiable homicide to compel him to swallow his own darksome nostrums, but the present laws are insufficient for his repression and, however beside himself he may become, we can hardly hope that he will so far forget his villany as to administer unto himself that which he so recklessly deals out to others.

To protect the public, the American Public Health Association should recommend the enactment of statutes excluding from the medical profession those who are not competent by learning, skill, and experience to practise, and punishing by imprisonment any who violate the provisions. No one should be permitted to practise medicine or engage in surgery unless authorized to do so by a competent board of Government or State examiners.

DR. R. HARVEY REED, of Mansfield, O., said it was no easy matter for the medical profession to eradicate quacks or pretended medical men. Whenever a question of this kind was brought before the Legislature, the profession had to contend with two prominent factors, viz., the quacks themselves, who furnished large quantities of money, and second, the general press of the country. Why the press? Because the quacks paid the newspapers more money for advertising than the regular medical profession, consequently the press aided the quacks in trying to down the law.

Water-supply and Public Health.—MR. ALLEN HAZEN, of Lawrence, Mass., read a paper on this subject in which the author dwelt principally upon the typhoid fever and cholera germs which infect impure water. Typhoid fever and cholera bacteria are taken into the system through food and drink. Pure water is therefore a necessity. If water is absolutely free from sewage it can be depended upon as being comparatively pure, although many waters not polluted by sewage have been known to breed disease. Flowing streams will partially purify themselves. Reservoirs and long channels where water flows and becomes aërated will not always purify it. Some system of filtration is therefore imperative, and the question to be decided is the best means of filtration. Several systems were described, but all were said to be more or less defective.

At the close of this paper, DR. HENRY B. HORLBECK, of Charleston, S. C., presented some vital statistics from the Southern States, showing the death-rate among the colored population to be much greater than that of the whites, and offered a resolution asking the governmental statisticians in preparing their reports to arrange them so that this fact may be shown. No action was taken on the resolution.

At the evening session appropriate addresses were delivered by Governor David R. Francis, of Missouri; Governor L. U. Humphrey, of Kansas, and the Hon. John T. Peak, of Kansas City, Mo.

President's Address.—DR. FREDERICK MONTIZAMBERT, of Quebec, then delivered the annual address. He said, to the medical men of Kansas City and its vicinity, the meeting was meant in part as an appeal to quicken interest in the more purely preventive work of the profession, to increase interest in the organization and working of the coast quarantines and health boards by which people are affected; the sewerage of cities; the disposal of garbage and refuse; the purity of water-supply; the infectious diseases of animals now known to be closely related to those of man; as well as other much broader questions of modern sanitation.

To the non-medical of all ages, sexes, and conditions it is an appeal to take a lively and an active part in the great crusade against dirt and disease. In the words of Sir Spencer Wells, "Instruct your mayor and corporation, your clergy, and your own household, that every

case of typhoid fever or scarlatina, of diphtheria or small pox, of measles or whooping-cough, can no longer be looked upon as natural and providential; but that the existence of such preventable diseases is a proof of ignorance and negligence, and a disgrace to the country, to the town, and the family."

Everyone can do a little, if only to make one home or one room bright, more cleanly, and more wholesome. Sunlight, pure air, and thorough cleanliness are natural enemies to disease germs. These cannot live where they have not their proper food, which is found in dampness, darkness, mould, and dirt. The experiments of Koch, Ransome, and others prove that the living germs of consumption, when exposed to the sunlight, lose their vitality in a few hours, or even in a few minutes, if the layer in which they are exposed be thin enough, and that even ordinary daylight, if it last long enough, will have a similar effect. There is no sounder philosophy than the old saying that, "there is more health in a sunbeam than in drugs, more life in pure air than in a physician's skill," and that, "sunlight may fade your carpets, but better that than have its absence fade your cheeks."

The President then paid a tribute to the memory of such members of the Association as had died since the last annual meeting. He then passed on and briefly reviewed the various contagious diseases as battled with by the health authorities of the country, together with the experiments entered into to overcome them. Asiatic cholera, la grippe, cancer, and diphtheria were all touched upon, as well as disinfection and immunity.

Second Day, Wednesday, October 21st.

Vaccine and Vaccination was the title of a paper read by Dr. Paul Paquin, of Battle Creek, Mich. He touched first upon the necessity for absolutely pure vaccine, and told of some of the diseases that accrue from impure vaccine. The doctor had tested, on rabbits, guinea-pigs, and fowls, over one hundred vaccine specimens. In these tests he said he had found such cheerful forms of bacteria as the bacillus pyogenes fœtidus, the staphylococcus pyogenes aureus, the bacillus septicus, and gangrene micrococci. These he said produced abscesses, gangrenous lesions, septicæmia, and pyæmia.

Dr. Charles N. Hewitt, of Red Wing, Minn., spoke of unfavorable results from using bad vaccine in his State, and of the difficulty in obtaining good vaccine, and gave his personal experience. Small-pox, he said, is the same as it always was. An epidemic might sweep the country now, as the country was practically unprotected.

Dr. Yesi, of Mexico, spoke of the compulsory vaccination of Mexico. Human vaccine alone was used. Lower animal vaccine is not cultivated. Better results from human than animal vaccine are obtained. A serious small-pox epidemic has not visited that country in about twenty-five years.

Dr. L. F. Solomon, of New Orleans, La., replied that in Louisiana each child must show a vaccination certificate before being allowed to attend school. About ninety per cent. of the primary vaccinations were successful. He favored the use of bovine virus.

The Disposal of Garbage and Refuse.—Dr. Delos Fall, of Albion, Mich., read a paper on this subject. He spoke of the intimate relation between typhoid fever and the accumulation of waste organic matter. The method used in New York is taking the waste out to sea and dumping it. Philadelphia recommended cremation. Chicago objected to the use of waste in filling holes and vacant lots, and then building houses on them. San Francisco recommends cremation. Baltimore has dumps which are objectionable, and which will be removed as soon as a better method can be found. Cincinnati gives its waste to a desiccating company, which is under contract to remove the same. In Charleston the city removes its own garbage; carts it out in the morning and generally gets through about noon. This waste is dumped into a salt-water marsh. The cost is about $19,000 a year. Milwaukee pays $23,316 a year for collecting garbage by hand, and $15,000 a year for disposing of the same. The Merz system of disposal of garbage is used. Garbage is at present disposed of by dumping it into Lake Michigan, much to the disgust of the citizens, because the Merz system contract has expired. In Washington the removal is carried on by the contract system.

Dr. Edward Clark, of Buffalo, N. Y., made a report on the collection and transportation of garbage and refuse in cities. He advised full police power for the sanitary service of large cities. A galvanized iron tank holding about two or three bushels is the best receptacle for holding household garbage. The refuse tank must not be placed on the street, or sidewalk, but the collector should be compelled to go in and get it, remove the contents, and replace the cover.

For transporting garbage carts are preferable for short, and wagons for long, hauls. The beds should be made water-tight, and should be flushed after each dumping. Any driver who failed to do this should be instantly discharged. The bed should be covered with iron.

Rabies, was the title of a paper read by Dr. J. J. Kinyonn, of the U. S. Marine Hospital Corps. He said the disease was transmitted almost wholly by the canine and feline species. The disease prevails all over the world, except in Australia, where it is not known. He regretted that so little is known of its prevalence. He opposed the idea that the disease is confined to warm weather, the statistics showing that the greater number of cases occur in December and May. He discussed Pasteur's system and its success. Recognition of the disease is not easy in any animal in the early stages. He advocated the establishment and enforcement of strict quarantine regulations, in order to eradicate the disease.

American Climates and their Physical Effects.—In this paper, Dr. P. C. Remondino, of San Diego, Cal., said that it is well known that European immigrants soon lose their ruddy cheeks and bright eyes, with a certain loss of spirit, when they came to this country. They lived in happy disregard of all hygiene or science. In changing climate, they followed no rational rule whatever for the really necessary change of diet. He then extolled Southern California, and compared it to the Garden of Eden.

Animal Diseases was the title of a paper read by Mr. Ernest L. Dundas, U. S. Veterinary Inspector at the Kansas City packing houses. He spoke strongly against the evil of diseased cattle being shipped to market. As soon as a farmer discovers that tuberculosis is about to ravage his cows, he immediately ships them off to market to get rid of them before they die on his hands. He recommended the police supervision of all milk dairies. He laid to the Jersey cow the blame of being most generally afflicted with tuberculosis.

Dr. Walter D. Green, of Buffalo, said that, while it might not be incorrect that the disease was quite common and deserved close watching, still the fact should only urge the physician to more earnestly fight against the spread of disease among his patients.

Dr. Peter Bryce, of Toronto, limited his remarks to tuberculosis in milk, and the manner in which the disease is most commonly transmitted to consumers. In Canada, he said, they never bred their milch-cows, and in one city they never use a milch-cow after she once goes dry; she is immediately sent to the butcher. The great question is how to tell a cow when she is so afflicted. It seemed to him that in view of the startling figures that there are 15,000,000 cows daily supplying the country with milk, and the fact that in certain abattoirs it has been shown that five to ten per cent. of the cattle killed are tuberculous, there should be a most rigid and regular inspection of all milch-cows, as is due the public.

New Organization of the Supreme Board of Health of Mexico, formed the theme of a paper submitted to Dr.

DOMINGO ORVANANOS, of the city of Mexico. In this paper the outline of work covered by the Mexican supreme board of health was given, showing a most complete system of supervision, a system which on its face would tend to make it one of the most thorough in operation in any country. One exceedingly good feature is the sending of a surgeon-physician with every ship leaving Mexican ports, who shall be held responsible for the sanitary condition of the vessel, and who shall be obliged to report to the Mexican consul at every port where the vessel may touch, and obtain from him a clean bill of health. This move was done in view of the fact that Mexico is preparing to meet the reciprocal treaties of all countries, thus calling for the service of an extensive maritime navy.

Land Habitation as a Public Health Measure.—DR. GEORGE HOMAN, of St. Louis, Mo., read a paper with this title. The paper showed the benefits which would arise by the individual ownership of homes, as that would render less likely any communicable disease, as well as render easier the fight against disease by admitting of isolation, a most desirable feature in combating disease.

THIRD DAY, THURSDAY, OCTOBER 22D.

The Present Position of the Milk-supply Problem from the Public Health Standpoint, and Some Practical Methods for Securing Safe Public Supplies.—This paper was read by DR. BRYCE, of Toronto, and the following is a summary of the precautions necessary to healthy milk therein presented:

1. It is especially desirable that a system of periodic veterinary inspection be exercised in addition to the dairyman's inspection.

2. Strong views should be held and exercised regarding the nature and quality of food for cows. All decomposed foods, as those which are liable to undergo fermentation, should be wholly avoided. The best foods are well-ripened grains and grasses.

3. The stables of the cows are a point of great importance. Too often dark, damp, ill-ventilated, and crowded pens have been the home of this chief of our food-supplies. It is quite possible to keep, even on a large scale, a dairy stable free from the ordinary disagreeable stable odors. The water-supply to the cows is of equal importance.

4. The care of the milk at the time of taking and subsequently is, of all points, at once the most difficult and the most necessary to supplying a wholesome milk. De Claux has said: "Cleanliness is everywhere the *sine qua non*." This means almost a revolution among farmers and dairymen. The sterilizing of all cans and bottles by steam or dry heat and the boiling of all strainers will be necessary.

5. The delivery of milk is of prime importance.

6. When milk has reached the consumer it must be placed in a refrigerator or promptly consumed.

FOURTH DAY, FRIDAY, OCTOBER 23D.

DR. J. RAMON YCAZA, of the city of Mexico, read a paper entitled "A Few Considerations upon the Progress of Public Hygiene."

Notes on the Hygiene of Rice Culture was the title of a paper by DR. NAZARIO LOMAS, of Moreles, Mexico. Moreles is the great rice-producing State of Mexico, and the paper touched upon the sanitary effects of this culture. The vast rice-swamps were declared by the author to be most insalubrious.

Car Sanitation.—The report of the committee on this subject was read by Professor W. W. Daniells, Chairman, Madison, Wis. He said the great difficulty in the heating arrangement of cars was that all systems thus devised are for heating alone, and that ventilation is not particularly sought.

DR. R. HARVEY REED, of Mansfield, O., said that if the public asked for these things, as it demanded fast trains and elegant car upholstery, it would get them.

PROFESSOR DANIELLS thought that cars should be made differently. Instead of covering Pullman cars with expensive tapestry, they should be furnished with rattan or leather, as the cars on some of the suburban trains.

DR. JOSEPH SHARP recommended comfortable air-cushions that could be taken out and cleaned.

DR. CHARLES N. HEWITT, of Minnesota, read a paper dealing with the existing methods of dealing with immigrants as respects infectious diseases in England and on English ships. He held that the notification of infectious diseases among immigrants to the United States was a duty which the National sanitary authorities owed to the sanitary service of the several States; and he cited an example of such an arrangement between the United States authorities and the State Board of Health of Minnesota.

DR. A. N. BELL, of Brooklyn, followed with a paper on "The Bath and its Adoption."

The Executive Committee reported to the Association two important resolutions. One was by Dr. Homan, of St. Louis, declaring it the sense of the Association that State and Provincial inspection of the production of vaccine virus be established. The other resolution asks the establishment of a Federal department of health, to have at its head a Secretary of Public Health—a Cabinet officer at Washington. Both resolutions passed.

DR. HENRY B. BAKER, of Lansing, Mich., introduced a resolution to the effect that the Association hold its meeting in Chicago in 1893, and that, so far as possible, the occasion be made an International Congress of Hygiene and Public Health, which was adopted.

Election of Officers.—The officers elected for 1892 are as follows: *President*, Dr. Felix Formento, New Orleans, La.; *Vice-Presidents*, Drs. Walter Wyman, Washington, D. C., and Domingo Orvananos, of Mexico; *Secretary*, Dr. Irving A. Watson, Concord, N. H.

Next place of meeting, City of Mexico, date to be fixed by the officers of the Association.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, May 27, 1891.

H. M. BIGGS, M.D., PRESIDENT, IN THE CHAIR.

A New Method of Rapidly Staining Bacilli in Sections of Tissues.—DR. J. M. BYRON presented slides and cover-glasses illustrating a new method of staining bacteria in sections of tissues. Its peculiar feature was the rapidity with which the preparation could be made, and the ease with which the sections could be made to adhere firmly to the cover-glass. This was effected by immersion of the sections in an albuminous fluid, and then coagulating the albumin.

The sections, after being well rinsed in water, were put into a solution of equal parts of a two per cent. egg albumin solution and a concentrated solution of boracic acid, the latter being added in order to preserve the albumin. When thoroughly soaked with this solution, the sections are transferred to a cover-glass, immediately dried with blotting-paper, and then immersed in a solution which will coagulate the albumin, *i.e.*, absolute alcohol, or better, equal parts of alcohol and ether, or still better, in a one per cent. solution of bichloride of mercury in absolute alcohol. These agents quickly harden and fix the sections to the glass, so that it is afterward almost impossible to separate them from it. After washing with water, they are stained by any of the ordinary methods. By the employment of this method, the speaker had been able to stain tubercle bacilli in the tissues as quickly as in sputum.

Rupture of the Vagina and Uterus.—DR. A. T. WESTON presented the pelvic organs removed from a woman who had died twenty-four hours after delivery. She had at

first been attended by a midwife, and subsequently by a physician, who was unable to deliver the child by forceps or by version, and only finally succeeded by the application of the forceps to the after-coming head. At the autopsy, a laceration was found which extended up through the right side of the cervix and vaginal fornix into the body of the uterus, opening widely the peritoneal cavity. A large quantity of fluid and clotted blood was found in the abdominal cavity. The hand could be easily passed from the vagina through the rupture into the peritoneum.

Fatal Peritonitis from Necrosis of the Uterus.—Dr. Weston presented specimens from another case of sudden death after confinement. Immediately after delivery, the woman had done so well that she was out of bed on the fourth day. About the ninth day, she suddenly developed a septic peritonitis, and died twenty-four hours later. The autopsy showed a general septic peritonitis, with diphtheritic endometritis. There was a small dermoid cyst of the left ovary.

Gangrene of the Uterus.—Dr. Weston also presented a specimen of gangrene of the uterus, which was removed from a woman who died about four days after a premature birth, but just at what period of pregnancy could not be ascertained. It was evidently a case of instrumental abortion, induced probably by the patient or some friend. The specimen showed a well-defined area of gangrene, one and a half inch in diameter, at the fundus of the uterus on the left side, and two openings through the sloughing tissues into the abdominal cavity. There was a second area of gangrene in the posterior wall about the same size as the first, extending through the uterine wall. There was a general septic peritonitis. There were also two spots of gangrene in the cervix, extending entirely through the muscular portion to the peritoneum, but not involving it.

These three cases had all come under his observation in less than a week.

The President said that these cases usually gave a history of mechanical interference with delivery, and of secondary infection, followed by local infection and gangrene of circumscribed portions of uterine tissue, which result in establishing a direct communication between the cavity of the uterus and the abdominal cavity. He had only seen one other case of gangrene of the uterus, and in this one the history was much the same, and there was a circumscribed spot of gangrene in the fundus, about one inch in diameter, associated with a general septic peritonitis.

Diverticulum of the Œsophagus.—Dr. George P. Biggs presented a specimen of diverticulum of the œsophagus. It had been removed from a man about sixty years of age, who had died of acute lobar pneumonia. There was no history bearing upon the condition.

The autopsy showed the existence of extensive atheroma of all the vessels, but particularly of the aorta, where it extended from the transverse arch to the iliacs. The whole aorta was calcareous, and in spots it was ulcerated, but there were no signs of aneurismal dilatation, and the degenerative process seemed to be confined to the intima. The diverticulum was situated about one and a half inch below the bifurcation of the trachea, and extended backward toward the spinal column. The posterior portion was accidentally cut off in removing the aorta. The opening of the diverticulum measured 2 ctm. by 1 ctm., and the diverticulum itself 4 ctm. by 2½ ctm. There were no evidences of inflammation.

An Echinococcus Cyst of the Liver.—Dr. Biggs also presented a specimen of this condition. It was found in a man about sixty-two years of age, who had died of acute lobar pneumonia. There was no history indicating the existence of such a condition. In the free border of the left lobe of the liver was a perfectly round, calcareous body, 1½ ctm. in diameter, and at the junction of the right and left lobes was a mass, 4 ctm. in diameter, projecting from the free border. The latter had a firm external capsule, and on section was found to contain pultaceous material. Microscopical examination showed the presence of the characteristic hooklets of the echinococcus, and the laminated layers of the old cyst-wall, together with much granular material and some cholesterine crystals. In the sac-wall were a few heads of echinococci clinging to it, but the cysts had apparently disappeared.

The President presented the left hemisphere of a brain removed from a man, thirty-four years of age, who had been an inmate of the almshouse for a number of years. There was some paresis of the left side, and complete paralysis of the right, with secondary contractures. His power of speech was quite limited, although he could swear with vigor and fluency, but he could read and write, although when writing there was a good deal of muscular twitching. He died from *la grippe*. At the autopsy, the left hemisphere was found to contain a large area of atrophy, which involved the posterior portion of the first, and a part of the second, frontal convolution, the lower portion of the anterior and the posterior central convolution, with a part also of the first temporosphenoidal. Over this area, as is usual in these cases, there was a kind of cyst formation, the outer wall of which was formed by thickened pia, and the internal and lateral walls by sclerotic brain-tissue. On the right side there was a good deal of dilatation of the ventricle, and some smaller areas of atrophy in the cortex. The specimen showed extremely well the sort of atrophies which were constantly found in the cases occurring in the almshouse, but it was unusual to find them in one so young. Several of the superior branches of the left middle cerebral artery were extremely small, and the walls were very much thickened, some of those vessels supplying the area of atrophy seeming to be nothing more than fibrous cords. He thought the condition was due to thrombosis, or obliterating endarteritis with thrombosis, but it might have resulted from hemorrhage. The facility that this patient showed in swearing was an interesting confirmation of the claim made, that there were centres on both sides for this faculty.

Gunshot Wound of the Brain.—The President also presented sections of the brain removed from a man, aged thirty-seven, who had attempted suicide by shooting himself. The ball, which was of large calibre, entered the brain on the right side, just in front of the apex of the temporo-sphenoidal lobe in the third frontal convolution. It passed almost transversely, but a little downward and backward, through the anterior part of the brain. The track of the bullet lay above the lateral ventricle on each side, and passed through the great longitudinal fissure, above the corpus callosum, and strangely enough, did not pass completely through the left frontal lobe, but lodged about half an inch from the surface of the cortex.

It was interesting to note that the man lived six weeks after this injury. The case occurred in the service of Dr. Charles Phelps, at St. Vincent's Hospital, and was operated upon by him. The patient was first trephined, and considerable depressed bone elevated, but the bullet was not found. He recovered from this operation, and gained a moderate amount of mental power, but he was constantly lethargic. There was scarcely any elevation of temperature for two or three weeks, and only very slight paresis on the left side. He was able to be up most of the time. After the third or fourth week he developed more pronounced cerebral symptoms, with elevation of temperature. A second operation was performed, and considerable pus and broken-down brain-matter was evacuated. The patient improved temporarily after this operation, so that he was able to get out of bed again, but he gradually failed in strength until the time of his death; but at no time did he develop any marked paralysis.

The specimen of the brain presented was divided into sections, and showed very clearly the track of the bullet.

At the site of the wound there was considerable loss of brain-tissue. After the bullet had passed through the longitudinal fissure to the left side, it had evidently cut through a blood-vessel, for there was considerable hemorrhage, and more destruction of brain-tissue.

The President said that Dr. Van Gieson had requested him to report that the tumor presented by Dr. Sachs at the last meeting, and referred to the Microscopical Committee for examination, had been found to be a specimen of tuberculosis of the brain.

The Society then went into executive session.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE CONDITIONS OF THE CURE OF CONSUMPTION—ACTINOMYCOSIS—DR. BURDON SANDERSON ON THE NATURE OF THE PROCESS OF INFLAMMATION—DEATH OF MR. WHARTON JONES, F.R.S.

LONDON, November 14, 1891.

"THE Conditions of the Cure of Consumption" formed the subject of a communication, by Dr. Burney Yeo, to the Medical Society of London at its last meeting. Dr. Yeo pointed out that while many competent observers regarded phthisis as curable, this belief was based upon the fact that traces were found in many cases, post-mortem, of tubercular lesions which had undergone spontaneous cure. Thus Bronardel, basing his conclusions on the results of post-mortem examinations on persons who had died violent deaths, asserted that sixty per cent. of persons over thirty years of age had been the subjects of tuberculous disease of the lungs which had undergone spontaneous cure. It was, however, necessary to distinguish between localized tuberculous lesions in the lungs and phthisis properly so called; the former were indisputably curable, but the latter was much less so. Grancher held that the tuberculous patient "who had become phthisical" was incurable, and Dr. Yeo admitted that in most cases of phthisis the conditions favorable to and admitting of a cure had passed away. Early diagnosis was important, and, therefore, the early occurrence of hæmoptysis was favorable, for it served to excite the attention of the patient to his condition. The author summed up the therapeutical indications as follows: 1, Abundance of suitable food; 2, residence in a dry, aseptic atmosphere (in the country or by the seaside) of equable temperature, but not necessarily cold, with plenty of sunlight; 3, counter-irritation; 4, internal medication. As to the latter, he mentioned specially creosote and the hypophosphites; the latter gave the best results in the young and in patients of light skin and sanguine temperament. He had observed benefit from Bergeon's treatment in some cases. No patient systematically inhaled antiseptics without marked benefit.

At the last meeting of the Medical and Chirurgical Society the evening was devoted to discussing the subject of "Actinomycosis." Dr. W. H. Ransom described a case in a man, aged fifty, in which the vermiform appendix was affected, causing perityphlitis. Dr. William B. Ransom related a case of actinomycosis of the digestive and urinary tracts in a man aged forty-eight. Mr. A. R. Anderson gave an account of a case occurring in a man, twenty-nine years of age, in whom the disease affected the face and neck. He had operated with success.

Dr. Pye-Smith said he had seen the first case several times, and he agreed with Dr. Ransom that it was probably hopeless from the first. He thought the disease was probably contracted from barley—not from flesh. It was difficult to decide the botanical position of the ray fungus, but he thought it would most likely turn out to be a fission-fungus. When situated externally it could be removed, but internally it was incapable of cure.

Professor Crookshank remarked that Mr. Anderson's case was the first successful operation on actinomycosis reported in this country. The disease was very common here, and was known to veterinary surgeons as osteosarcoma or osteofibroma; in the United States and Australia it was termed "lumpy jaw." If some of the pus was allowed to trickle down the side of a test-tube held up to the light, if it contained any of the fungus masses they could easily be recognized as small black specks. He thought that morphologically the fungus was somewhere between the fission and the higher fungi. The disease was probably caught from cereals, and not from cattle or from another man.

Dr. William Hill thought the botanical position of the fungus was among the basidiomycetes, and not among the fission-fungi; this view was supported by the fact that the fungus underwent an alternation of generations.

The way in which pathological doctrine has swung to and fro on the subject of the nature of inflammation has been well shown by Dr. Burdon Sanderson in the Croonian Lectures he is delivering at the College of Physicians on "The Progress of Discovery Relating to the Origin and Nature of Infectious Diseases." In his first lecture Dr. Sanderson maintained that the definition of inflammation which he had once given—that it is the response of living tissue to injury—still holds good, but he proceeded to point out how the doctrine of the infective nature of inflammation had originated, developed, and undergone modification. Up to 1860 it had been assumed without question that whenever inflammation occurred in consequence of an injury—whether chemical or mechanical—the *apparent* cause of the morbid process was the real one. Since that time it had, however, become gradually clear that in the majority of instances this was not so. In 1870 Mr. Simon recognized the probability that the doctrine which had a little before been set forth by Professor Halier—that specific contagia are in their essence living microphytes—was true. The next year an extensive series of researches was conducted by Dr. Klein and Dr. Sanderson, in which they observed the fact that the presence of micrococci in groups or chains, as well as rod-like microphytes, was so characteristic of all such suppurations that they had no doubt that it was to them that these products owed their infecting character. The lecturer then traced the development of the doctrine of the dependence of inflammation on microphytes. In 1880, he said, there was a new departure consisting, first, in the demonstration that in all ordinary cases of acute suppurative inflammation the purulent product contained microphytes special to it, and, secondly, in the application of the methods with which about that time Dr. Koch had enriched pathology for separating species of microphytes from each other and obtaining pure cultures. We owed the demonstration that all acute inflammatory products contain characteristic forms of microphyte to Professor Ogston, of Aberdeen. Dr. Sanderson then described in some detail the researches of Ogston, Rosenbach, Krause, Rodet, and others on staphylococcus (cluster coccus).

He referred to streptococcus (chaplet coccus) and said its action resembled staphylococcus in most respects. The fact that two microphytes which were so easily distinguishable in the laboratory—the micrococci of one being arranged in clusters, and those of the other in chains or chaplets—should be almost indistinguishable in their action, evidently bore on the view to be taken of the relation between a microphyte and its morbific action.

In his second lecture Dr. Sanderson showed that, leaving out of consideration those wholly exceptional cases in which inflammation is produced by exposure to heat and cold, and which had not yet been investigated in their relation to microphytic influence, its proximate cause was always chemical. Suppuration could be produced by chemical agents in the absence of microphytes, and when produced by microphytes the action was chemical. The chemical substances which had been experimented with

were numerous and their action varied somewhat in different animals. Mercury produced suppuration in the dog (each drop injected hypodermically becoming the centre of a minute abscess), but not in the rabbit. Nitrate of silver in five per cent. solution produced suppuration in the dog with great certainty, but not in rodents. Ammonia failed to produce pus in any animal; it was either absorbed or else it killed the tissue with which it came in contact. Of organic substances, turpentine had been most experimented with; in the carnivora it produced abscess with great certainty. The experimental proof that the action of microphytes was chemical lay in the observation that in the case of many micrococci the symptoms resulting from their presence in the living body could be produced by the injection of devitalized cultures containing the soluble chemical products of their vegetation.

By the death of Mr. Wharton Jones, F.R.S., the profession loses one of its members well known to a by-gone generation as a working physiologist. Although for years in practice as an ophthalmic surgeon, Mr. Wharton Jones's chief work was done in the domains of physiology, and particularly in regard to the physiology of the circulation. He refused to accept the theories put forward by Cohnheim, and during the last few years has from time to time engaged in controversy to point out the want of experimental proof in support of Cohnheim's views.

EXSECTION OF INTESTINE.

To the Editor of the Medical Record.

Sir: In Wood's "Reference Handbook," vol. viii., p. 300, article Hernia, I have claimed that a case of my own there recorded represented the largest amount of intestine ever successfully removed, with restoration of continuity, in a strangulated hernia, in America. The excised portion measured about thirteen inches.

This statement was upon the authority of Dr. A. J. McCosh's tables, published in the *New York Medical Journal* for March 16, 1889, and which were evidently compiled and elaborated with great care and research.

Some weeks ago I heard, indirectly, of an instance in which, it was said, a much greater length of bowel had been sacrificed, and with recovery, than in the case recorded by me. I made inquiry accordingly, in order to obtain the facts; and the subjoined letter, received to-day, is the result.

I would ask you, sir, to oblige me by publishing it, both because of its intrinsic interest and for the reason that Dr. G. D. Beebe is evidently the surgeon entitled to the credit and not myself.

It is, of course, well known that yet greater losses of small gut have been, in a few instances, recorded by certain European surgeons than that sustained by Dr. Beebe's patient. Koeberle, for example, has resected 2.05 metres, and Kocher 1.60 metre, in each case without a fatal issue.

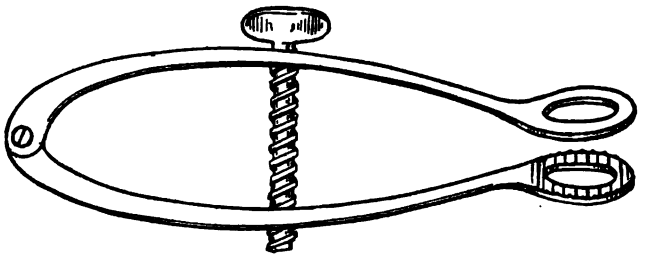
Very respectfully yours,

Robert H. M. Dawbarn, M.D.

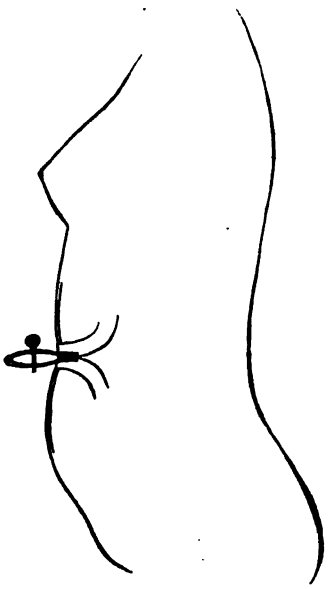
345 West Fifty-Sixth Street, November 5, 1891.

"Robert H. M. Dawbarn, M.D., New York.

"Dear Sir: Replying to your note of the 29th ult., I would say that my brother, Dr. G. D. Beebe, in 1869,



operated upon a strangulated umbilical hernia in a woman (then pregnant some three or four months I believe), and, finding the strangulated gut sphacelated, he removed four feet and ten inches, stitching the ends to the abdominal wall, thus making an artificial anus. After she had recovered from this operation he made an opening through, between the two adjacent intestines, by means of a clamp, after which the external ends were refreshed and the abdominal wound was closed by quilled sutures. In due time she was delivered of her child, and may be alive to-day so far as I know. My brother died nearly fifteen years ago. I have somewhere a report of the case, published in pamphlet form soon after the operation, but have not succeeded in finding it. It was, I think, published in several medical journals and was also taken up by the newspapers and copied from one to another as far as Australia. I make on the back of this sheet a rough diagramatic drawing to show the method of restoring the continuity of the intestinal tract.



This clamp was screwed down so as to bring the adjacent intestinal walls together and produce adhesive inflammation. It was then tightened so as to cause a disk the size of the blades to slough out, thus leaving an opening from one intestine into the other. As I assisted at the operation and personally knew all the details, I can depend upon my memory, with confidence, in the matter.

"Yours very truly,

"A. G. Beebe, M.D.

"582 West Adams Street, Chicago, Ill.
"November 2, 1891."

MEDICAL EDUCATION — FROM THE STUDENT'S POINT OF VIEW.

To the Editor of the Medical Record.

Sir: Dr. Stephen Smith, in his recent address before the New York State Medical Society, on "The Art of Teaching Medicine," made a happy use of his opportunity in calling attention to a defect in the present system of medical education that, seemingly, has not received from teachers of medicine any part of the consideration that it deserves. I am sure many medical students who have considered the inconsistencies under which they labor will agree with me in saying that in attacking the prevailing method of teaching medicine by lecture to undergraduates he has pointed out the greatest defect in the present system of medical education. And it is a hopeful sign when a man of Professor Stephen Smith's ability and conservatism, and with a long experience in teaching medicine, utilizes the distinguished position from which he speaks to emphasize the obsoleteness of our present methods of teaching medicine.

As Professor Smith tells us, there once was a time when medical lectures to students were based upon good reasons. When books were scarce and costly, and often even unobtainable by students, there was good reason for teachers dictating their lectures to their students. Even later, when one man might embody in himself an encyclopædic knowledge of medical science, teaching medicine by lecture was justifiable; and now I suppose few persons will question the value of lectures to educated medical men by men who have something original to say and who are authorities in their especial lines. But at the present time, when books are the most inconsiderable element in the cost of a medical education, and when no man can offer his students a statement of even one branch

of medical science as good as they can get in their text-books, what are the reasons for lecturing upon the elementary subjects of medicine to undergraduates, and even to beginners? And that, too, in face of the fact that it is now done in no other department of scientific education.

If there are any good reasons for so doing, they must be either: 1, That medicine so taught is more thoroughly and permanently impressed upon the students than by the usual methods of scientific education; 2, or that it can be more rapidly taught; 3, or that it can be taught as well and more agreeably; 4, or that by lectures the professors can from their own stores of original knowledge give the students valuable information not to be gotten elsewhere; 5, or that lectures as supplementary to private study are of more value to medical students than recitations and the ordinary methods of teaching sciences.

One is tempted to think that the absurdity of most of these suppositions is evident in their very statement, but it may not be useless to examine them briefly in detail.

As to the first supposition, Is it true that medicine taught by lecture is thoroughly and permanently impressed upon the student's mind? Of what he succeeds in getting from his lectures, possibly it is. But how often does a student succeed in following a lecturer closely enough to make his information upon a point satisfactory or complete?

No student depends upon his memory or his notes of a lecture for a satisfactory knowledge upon a scientific question; what he must have is exact and complete information, and with the errors arising from inexact statement on the part of the lecturer, and from misunderstanding and misinterpretation upon the part of the student, every student knows that he cannot depend upon his lectures for that. What student, for example, ever succeeds in learning from a professor's lectures the functions of the medulla? To get information that will be of use to him he has to go to his room and study, not simply read with attention, the very matter that he has been lectured to about all day. In the time that he has sat and listened to lectures he could have learned thoroughly all his teachers have gotten over and more besides, and then have had his evening for other work. It is really not too much to say that for most students the professor's lectures are little more than announcements of what the student must study when he goes to his room; coupled usually with an unconscious announcement of the points upon which each professor, according to his peculiarity, lays stress, and which, therefore, the student gets up with particular attention in order to work it off "on the old man" at examinations.

The second supposition, that medicine can be rapidly taught by lecture is certainly without foundation in experience. No lecturer can intelligently cover in an hour nearly as much as a good student can learn in the same time. For example, a lecturer does remarkably well if he covers half of the subject of practical medicine in a session of six or seven months; how would a student ever get ready for his examinations if he had to wait for his lecturer?

Now in order to consider the third supposition let us for the moment grant that medicine can be taught as well by lecture; is it, then, true that it can be taught by lectures more agreeably than by ordinary methods? For the professors, perhaps, yes. It is flattering to one's self to stand as an authority before four hundred young men; to deliver one's self "oracularly;" to be received with applause; and to have men hang upon one's words—it is easy to see that these things are agreeable, incomparable to the drudgery of the quiz-masters. But for the students it is a different matter. The very physical labor of sitting for five or six hours per day in a cramped opera-chair in a crowded lecture-room, the air of which soon becomes hot and bad, is in itself hard work. It is in fact so hard that, unless a student has more than ordinary energy and determination, it is about all that he can do.

And now as to the next supposition. Does anybody believe there is a necessity for medical lectures in order that the professors may give their students the benefit of their original information? Indeed, is it often that the student needs anything that is not the common property of the current medical text-books? If original information or superior arrangement of the topic were the condition of the delivery of medical lectures, how many lectures would be given in any of our schools? What teacher is there who has anything to say to his students that has not already been said by himself or somebody else in a better way in a book?

It is talking mere commonplace to say that the substance of the didactic lectures of our medical schools is simply the common stock knowledge of medical literature. What, then, is the reason for consuming the best part of a student's time in giving him that which he can get in better shape for himself in his Gray, or his Foster, or his Brunton?

If we pass to the next supposition and ask, as a supplement to private study, are not lectures of great value to the student, we get no more satisfaction. Clinical lectures are, of course, valuable supplements; but with them I am not concerned, for I take it that no one would abolish them. But as for didactic lectures. In the first place, even if didactic lectures were valuable to impress upon students the information gotten from their own study, they consume too much time to be useful for that purpose; until the day is made longer than twenty-four hours students cannot afford to spend six or seven hours of the day in having the results of their study impressed upon them. But lectures are not even a good method of doing this. At a lecture a student plays an entirely passive part; whatever interest he takes is the result of a voluntary and, with most lectures, a very earnest effort. He has no part to play in the mental exhibition; he has simply to listen and listen, and take in and take in; and the mind to do its best must have something more required of it than to note passively thoughts already elaborated by someone else.

It would be presumptuous for me to attempt to tell the best methods of teaching the sciences. These methods, at least so far as all other departments of scientific education are concerned, are already established. To make the student an active agent in the exchange of ideas between him and his teachers, to make him a part of his work, to find out what he knows and to find out what he does not know, to make him do his own thinking—these are the aims at the foundation of approved methods of education, and there are no adequate reasons why they should not as well be applied to medical education as to education in the other departments of science.

That the foregoing conclusions are true is proven beyond the point of doubt by the way in which students flock to the quiz-masters. That young men, most of whom are poor and in earnest about their work, and the best of them as well as those without determination—that these, usually at considerable pecuniary sacrifice, should go outside of their schools and eagerly grasp the aid that the quiz-masters offer them, testifies stronger than anything else could to the value of recitations and intimate association with one's teachers.

A young man, especially if he comes from a good college, finds himself about three months after he enters his medical school in a peculiar situation. He has paid tuition and other fees for a six months' course, to the amount of about two hundred dollars, and unless he is a *rara avis* that is about all he cares to pay until next October. He finds, however, that, after deducting his fee for dissecting, for work in the histological laboratory, and for a little other practical work of that sort, he has paid about one hundred and forty dollars for something that he regards as of very questionable advantage; in fact, but for its necessity in getting a diploma and license to practise medicine, he is beginning to think he is not getting much return for that hundred and forty dollars. He per-

severes, however, for a while in attending the lectures, thinking that the school certainly knows what he needs better than he does. He keeps this up for a while, until he becomes firmly convinced that he is spending his time to poor advantage. Then he sees that something must be done; he sacrifices to his necessity a hundred dollars more of his much-needed money; he takes a "quiz;" and if he is one who is not afraid to act on his convictions, he cuts his didactic lectures and begins to study. And I might follow him up, as the novelist does his hero, by saying he is a good student and finally graduates with high standing in his class; for the fact is beyond dispute that many of the men who take high places in their classes pursue the very course outlined above, and that nearly all of the men who take the best standing pursue that course to a greater or less extent. It may be objected that there are good students who graduate high in their classes who do so without taking a private "quiz;" but they are so greatly in the minority that they only render the phenomenon more striking.

If, as recently a representative of the large class of medical students, I might offer an opinion, it would be that the crying need of medical education is not a longer period of undergraduate study, but the application to medical teaching of the approved methods of instruction followed in other departments of scientific education. Judging from a five years' experience with college men and their work under favorable conditions, I am very much inclined to the opinion that medical students could, under a system where they would be allowed to apply their time to the best advantage, do a better quality of work, and as much in two years as they now do in three.

W. A. PUSEY, A.M., M.D.

ELIZABETHTOWN, KY.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 22, 1891, to November 28, 1891.

MAUS, LOUIS M., Captain and Assistant Surgeon. Granted leave of absence for one month.

BALL, ROBERT R., Captain and Assistant Surgeon. The leave of absence granted is extended one month.

TAYLOR, ARTHUR W., Captain and Assistant Surgeon. The leave of absence granted for seven days, is hereby extended twenty-three days.

WOOD, MARSHALL W., Captain and Assistant Surgeon. Granted leave of absence for three months, with permission to apply for an extension of one month.

HALL, WILLIAM R., Captain and Assistant Surgeon. Granted leave of absence for twenty days.

Official List of Changes in the Medical Corps of the United States Navy for the week ending November 28, 1891.

GUEST, MIDDLETON SEMMES. Commissioned an Assistant Surgeon, November 19th.

MARTIN, WILLIAM, Surgeon. Ordered to the Thetis.

WILSON, GEORGE B., Assistant Surgeon. Detached from the Thetis, ordered home, and granted two months leave.

Two Suicides.—Two women recently committed suicide in England. One, the wife of a laborer, chose whiskey as the agent of destruction, swallowing a pint of it at one gulp, and died in a few hours. The other, a woman of gentle breeding, swallowed a large number of morphine lozenges. And so they winged their flight, starting from different places and going by different routes, but reaching the same goal at the end.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 28, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	29	9
Scarlet fever	146	29
Cerebro-spinal meningitis	1	1
Measles	69	5
Diphtheria	112	36
Small-pox	0	0
Varicella	7	0
Pertussis	0	1
Erysipelas	1	0
Mumps	0	0
Rötheln	0	0

Cattle Disease in Russia.—In addition to the famine under which Russia is groaning, there has been serious loss sustained by reason of disease among horses and cattle which has been prevailing for several months in almost the entire country, especially in the ranches of the Crimea and the horse ranches in Caucasia. When the Veterinary Commission of the Government took notice of the fact and sent experts to destroy the infected animals, the ranchmen and the peasants of the neighborhood would not allow them to do their duty, and began to riot, which in several instances had to be put down by the bayonet. The Ministry of the Interior has therefore decided to establish a "veterinary police system" throughout the empire. The duty of the police will be to guard against the importation of sick cattle from abroad, to watch in the cattle-raising districts, the cattle markets, at the abattoirs, at the hide and leather stores, and wherever live cattle or the products of animals are sold or kept in store, that the orders of the Government veterinaries be promptly and accurately obeyed. They will have control over the dairies which furnish milk, butter, and cheese to large cities. Veterinary courts will be opened, with the power to punish the dealers in live stock and in animal products who disobey the orders of the veterinary doctors.

Medical Masons.—The Grand Lodge of Freemasons in England recently instituted the Æsculapius Lodge, composed of physicians. There has for some time been a lodge of apothecaries called the Galen Lodge.

The Duties of a Practising Physician.—It has been decided by the courts in Trinidad that a physician is obliged to respond to each and every call that is made on him for his services, whether he expects to be paid or not, and that indeed it is improper to make any arrangement about the fee beforehand. Furthermore, he must not give up a case without the consent of the patient, even though the latter is not seriously ill, and though other physicians are at near call, and if he does refuse further attendance he may become liable to heavy damages.

Dr. Edward Polak, who was for many years the physician to the Shah of Persia, died recently at the age of seventy-one years.

Of Course.—In an address before the students of Meath Hospital, Mr. Macnamara remarked that "there is a fashion in medicine as strong as, if not stronger than, that which rules in dress."

Alcoholism in Great Britain.—In 1890 there were 173,036 convictions for drunkenness in Great Britain, of which number 23,212 were in London, 10,773 in Durham, 13,154 in Lancashire, and 9,826 in Yorkshire.

Dr. Mosetig-Moorhof has recently been appointed chief of one of the surgical divisions of the Vienna General Hospital.

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Original Articles.

ESSENTIAL PAROXYSMAL TACHYCARDIA.[1]

BY JOHN WINTERS BRANNAN, M.D.,

NEW YORK.

I HAVE suggested for discussion this evening that form of tachycardia in which a very great acceleration of the pulse, occurring in paroxysms, is the cardinal symptom. The paroxysm may last a few minutes, or it may extend without interruption over a period of several weeks. In the intervals between the attacks the heart beats with normal frequency and force, and the individual seems in perfect health. There is no history of rheumatism, nor are there any valvular murmurs to be detected.

Four cases have come to autopsy. The entire nervous system was found intact in all, nor did the changes in the heart seem of any significance to those reporting the cases. All the other organs of the body were free from disease. It is a rare affection, and I have been able to find only twenty-six cases recorded in the journals. The case I am about to relate was first seen by me several years ago, and I have not yet forgotten the impression it made upon me, though it was not a very severe form of the disease.

On December 12, 1885, at 11 P.M., I was called in haste to see Mrs. L——, a woman thirty-five years of age. She seemed in great distress, and complained of palpitation and severe pain to the left of the sternum. She attributed her symptoms to her having been very much startled by her son, a weak-minded epileptic. She stated that she had had a similar attack two years previously, and from the same cause. She was a stout woman of rather nervous temperament, and had been troubled somewhat with dyspepsia. I learned later that she was two months advanced in pregnancy.

On examination I found the heart beating at the rate of two hundred pulsations to the minute, impulse strong. There were no murmurs or other adventitious sounds. The thyroid was not enlarged; there was no prominence of the eyes. I at once gave her a quarter of a grain of morphia hypodermically, and ordered a belladonna plaster to the seat of the pain, and one minim of the fluid extract of digitalis to be taken four times a day. Rest in bed was also enjoined.

December 13th.—The patient said that she had had but little sleep during the night, and had noticed that she was passing very little water. The heart's action was unchanged, but in spite of the vigorous systole the pulse was of very low tension, almost impossible to count at the wrist. The urine was examined, and proved to be normal in all respects. The patient was pale and anxious, but not suffering to any extent. I increased the digitalis to five minims in the twenty-four hours, gave her one-third of a grain of morphia at night, and also a laxative pill.

December 14th, Morning.—The patient expressed herself as more comfortable. She had slept soundly and thought the palpitation was less. On examination the heart was found as before. The digitalis was continued. Evening: The heart was acting quietly, seventy two beats to the minute. There was no enlargement nor any sign of valvular lesion. I continued the digitalis in diminishing doses for several days, and put the patient on a strict dietetic regimen. She remained under my observation for some two years, and during that period she had no return of the paroxysm, in spite of the fact that she aborted at the sixth month. I have heard of her since at intervals, and know that she is still alive and in good health.

I was inclined at the time, from lack of any other diagnosis, to regard this case as simply one of unusually severe reflex palpitation, due perhaps to gastric derangement in a pregnant woman of nervous temperament, the fright serving as an exciting cause. About a year ago, however, my attention was attracted by an article entitled "Essential Paroxysmal Tachycardia," by Bouveret,[1] of Lyons. It is an exhaustive study of the subject, based upon two cases seen by himself, and nine others reported by Bristowe,[2] Proebsting,[3] Pribram,[4] Huppert,[5] Bensel,[6] and Winternitz.[7] Bouveret was the first to give the affection a distinct name and place among the neuroses, and in this he has been followed by most of the French and German observers. In addition to the writers mentioned above, Gerhardt,[8] Brieger,[9] and Fraentzel,[10] in Germany; Sollier,[11] Huchard,[12] Debove,[13] Faisans,[14] Rendu,[15] and Perrin,[16] in France; and H C. Wood,[17] of Philadelphia, have reported cases. I have excluded all those cases in which there was a history of rheumatism, or in which valvular murmurs or other signs of cardiac disease were noted. In all I have found twenty-seven cases, including my own, which correspond to the picture given by Bouveret of the disease.

In his description of the paroxysms Bouveret divides them into two classes, according to their greater or less duration, because of the pathological consequences which ensue if they are prolonged beyond a certain period. If they last more than four or five days, we see secondary disturbances of the circulation and respiration, due to the rapid weakening of the heart, its dilatation, and the incomplete emptying of its cavities.

In the short attack there is nothing noteworthy except the extreme rapidity of the heart's action. This rapidity may attain 250 or even 300 pulsations a minute. It is very like that produced by section of the pneumogastrics in animals. The pulse is usually regular; occasionally there are periods of irregularity. It is often not perceptible at the wrist, but is to be felt in the carotids and femorals. The second pulmonic sound is accentuated, showing increased tension in the pulmonary artery.

Sometimes there are prodromata, such as dizziness, or a sense of constriction at the throat or epigastrium. Generally the beginning is sudden, without warning. Often there is no cause for the attack, at other times it follows some strong mental emotion or physical fatigue

[1] Read before the Section on General Medicine of the New York Academy of Medicine, October 20, 1891.

[1] Revue de Médecine, vol. ix., p. 753.
[2] Brain, vol. x.
[3] Deutsch. Archiv für klin. Med., Bd. xxxi., p. 340.
[4] Wiener med. Presse, 1882, No. 21.
[5] Berliner med. Wochenschr., 1874, No. 19.
[6] Berliner klin. Wochenschr., 1880, No. 17.
[7] Ibid., 1883, February 12.
[8] Sammlung klin. Vorträge, No. 209.
[9] Charité Annalen, 1888, Jahrgang xiii., p. 193.
[10] Ibid., 1889, Jahrgang xiv., p. 357; also Deutsch. med. Wochenschr., 1891, p. 321.
[11] La France méd., 1889, p. 1710.
[12] Revue gén. de Clin. et de Thér., 1890, iv., p. 521.
[13] Bull. et Mém. de la Soc. méd. des Hôp. de Paris, 1890, 3me série, vii., p. 953.
[14] Ibid.
[15] Ibid.
[16] Union méd., 1891, 3me série, tome i., p. 417.
[17] University Medical Magazine, 1891, p. 267.

or effort, and such causes are especially efficient during convalescence from a previous attack. The face is usually very pale throughout the paroxysm. The pupils are normal, and there are, as a rule, no vaso-motor disturbances.

There may be moderate dyspnœa; anorexia and constipation are usually present, and almost complete insomnia. There is marked diminution of the urinary secretion, but no albuminuria and no fever. In some cases the temperature is below normal.

The subjective sensations are variable; sometimes epigastric oppression, pain at the præcordia, numbness of the left arm, or general chilliness.

The attack ends as abruptly as it began, the pulse dropping suddenly from 200 or more to 72 beats a minute. Huppert noted the change of the pulse in his patient from a vague undulation to strong, regular, slow, equal pulsations. The short attack leaves but little prostration afterward.

The long paroxysm, however, is much more serious, because of the secondary respiratory and circulatory disturbances.

There is extreme cardiac distention, as shown by the dulness. In one case of Bouveret's the dulness extended from the upper border of the third rib to two inches below and outside of the nipple, and from an inch to the right of the sternum to one-half inch beyond the left mammary line.

Sometimes there is a soft systolic murmur during the paroxysm or during the convalescence, disappearing later. The stasis in the left ventricle and auricle and pulmonary veins causes congestion and œdema of the lungs.

The patient has cough, dyspnœa, and bloody expectoration. Sonorous and sibilant râles and friction-sounds are to be heard. In some cases there is pleurisy with effusion. The temperature may rise three or four degrees, owing to the pulmonic process.

There is marked cyanosis of lips and cheeks, and swelling and pulsation of the jugulars.

There may be agitation and restlessness at night, unpleasant dreams, and even delirium.

The cerebral disturbances are probably due to the arterial ischæmia and venous stasis prolonged for several days.

Swelling of the liver and spleen is noted, also ascites and œdema of the ankles. The urine is diminished and high-colored, and usually contains albumin and blood-globules. When the attack ceases the urine increases in amount, and the albumin and blood disappear.

In place of the constipation of the short paroxysm there is diarrhœa as a result of the venous stasis in the intestinal mucous membrane.

The subjective sensations are usually the same as in the short attack.

In one case, toward the end of a paroxysm which had lasted three weeks, and which terminated fatally, the præcordial pain was so intense as to recall that of angina pectoris. Bouveret attributes this pain to the ischæmia of the heart-muscle, due to the same lack of tension in the coronary arteries that is found in the peripheral vessels.

Some patients have fainting spells and syncope, especially if they attempt to rise from the recumbent position.

At the end of the paroxysm the secondary symptoms disappear gradually. Several days elapse before the lungs clear up. The urinary symptoms cease at once. The heart remains irritable during the first few days of convalescence, and a return of the paroxysm may be produced by a very slight cause, such as sitting up in bed. The extreme cardiac distention, however, disappears in a few hours.

The paroxysms ended fatally in 8 of the 27 cases, twice by syncope, twice by asystolic collapse, and in the other cases by pulmonary congestion or intestinal hemorrhage.

Etiology. — In discussing the etiology of the disease Bouveret draws attention to the entire absence of hysteria or neurasthenia in the cases collected by him, nor was there any hereditary neurotic tendency. In most of the other cases reported it is also stated that there was no evidence of nervous predisposition.

Faisan's two cases, however, were those of mother and daughter. My patient was of nervous temperament and had an epileptic son.

The disease is not often observed in children. In Brieger's case the paroxysms began when the patient was nine years old. In the other cases the age at onset varied from nineteen to fifty-two years.

The influence of sex is not marked; of 25 cases in which the sex is noted 11 were males and 14 females.

Over-fatigue, either mental or physical, seems to be the chief cause of the affection. Excessive smoking is also an important factor, and the drinking of strong coffee. In Gerhardt's case the attacks came on after long-continued literary work and immoderate smoking. Bouveret's first patient, a professor, was accustomed to read and study late at night, smoking at the same time. He also drank considerable coffee.

In one case the paroxysm was caused by a fright two or three days after confinement. In my patient a fright seemed to be the exciting cause. In Sollier's case the attacks occurred whenever the patient, a lace-maker, had been greatly vexed or annoyed in her business.

Pathology. — The pathology of essential paroxysmal tachycardia is still undetermined, and is perhaps not the same in all cases. The majority of observers believe that we have to do with a pure neurosis, a temporary disturbance of the motor innervation of the heart. Such a disturbance might be caused in three ways: by excitation of the sympathetic, by a modification of the activity of the intra cardiac ganglia, or by a temporary paresis of the vagus. Dr. Wood considers the tachycardia to be due to a discharge of nerve force and not to a paralysis of inhibition, comparing it to the epileptic paroxysm, which, he holds, is the result of a discharging lesion, and not of a temporary palsy.

The tachycardiac paroxysm, in his opinion, is likewise due to a discharging lesion affecting the centres of the accelerator nerve of the heart, the sympathetic.

Nothnagel,[1] on the other hand, employs the same illustration to support the theory of a paresis of the vagus. He sees in the loss of consciousness which accompanies the epileptic convulsion a sudden spontaneous cessation of functional activity on the part of central nervous organs, a sort of torpor or temporary paralysis. In the same manner we can conceive, he thinks, of a temporary torpor of the cardiac centres of the vagus in the medulla. The respiratory and gastric centres are not affected, nor is the trunk of the nerve itself.

It has already been stated, in the description of the paroxysms, that there are, as a rule, no vaso-motor symptoms nor changes in the pupils. This fact is opposed to the idea of sympathetic irritation. What part is borne by the intra-cardiac ganglia in the nervous disturbance it is difficult to say. It is not thought that they are ever the primary cause of the attacks.

It seems probable, on a review of all the evidence, that in most cases there is a paresis of the vagus, of central origin.

In three cases there was evidently excitation of the sympathetic, as shown by the accompanying vaso-motor phenomena.

It has been proved that only a very strong excitation can overcome the vagus tone, and hence inferred that the sympathetic cannot excite a very rapid action of the heart. The few cases in which it has caused marked tachycardia are to be explained by the fact that the vagus grows exhausted by prolonged sympathetic irritation, so that finally only the cardiac motors are active.

The general conclusion, is, then, that the affection is a bulbar neurosis, confined to the cardiac centres of the vagus in the medulla.

[1] Wiener Med. Blätter, 1887, Nos. 1 and 3.

Dr. Samuel West,[1] however, does not concur in this opinion.

While agreeing that the tachycardia is of nervous origin, he believes that the nervous irritability is due to organic disease of the heart, probably of the myocardium. He suggests that there is perhaps a chronic interstitial myocarditis, developing either spontaneously or consequent in some cases on past rheumatic pericarditis, or in others on syphilis, being thus related to fibroid disease of the heart.

Let us see how Dr. West's theory is borne out by the four autopsies of which we have record. I have already stated that the nervous system was normal throughout.

In Sollier's case the heart also was pronounced free from disease, but unfortunately the myocardium was not examined. Hence this case is of no value on this point.

Bristowe states that in his case, also, the heart was normal in all respects, the muscular tissue included. But the autopsy was made four days after death, and the heart was in an advanced state of decomposition. We can hardly, therefore, attach much weight to the evidence yielded by the microscope.

We have left the cases of Brieger and Fraentzel, in both of which a careful examination of all the organs was made soon after death. The records of the autopsies are strikingly alike in the two cases, for in both there was an extensive development of fibrous tissue in the wall of the left ventricle, whereas the valves of the heart were absolutely normal. Brieger attributes the tachycardia in his case to vagus paresis combined with sympathetic irritation, and apparently attaches little importance to the post-mortem appearances. He expressly states that in his opinion the degenerative changes in the heart were of recent date and due to the long-continued irritation of the cardiac muscle. As the paroxysms had existed for twenty-four years in his case, such an explanation is at least plausible.

Fraentzel's patient, however, had suffered from tachycardia for only three months before death, and yet the changes in the heart-muscle were most marked, as will be seen from the following extract from the report of the autopsy: "Left ventricle hypertrophied; increase of connective tissue, thickest next to the endocardium; papillary muscles and trabeculæ in left ventricle very thin and everywhere infiltrated with newly-formed connective tissue; foci of fatty degeneration in the connective-tissue formation immediately beneath the endocardium of the ventricular septum; entire endocardium of left ventricle much thickened, many trabeculæ have undergone fibroid degeneration."

Fraentzel makes no comment whatever upon the findings of the autopsy, but simply states, in concluding his paper, that the pathology of the disease is still very obscure.

It seems, then, that interstitial myocarditis was present in the only cases in which the muscular tissue of the heart was properly examined, thus confirming Dr. West's opinion that we should look to the myocardium for the cause of the nervous irritation. But if it is proved that there is organic heart disease in some cases at least, why need we longer say that the tachycardia is of nervous origin?

Physiology has demonstrated that rhythmical contraction is a property inherent in the myocardium and not absolutely dependent on the nervous system. It is not necessary, therefore, in all cases to appeal to a disturbance of the cardiac ganglia or nerves to explain disturbances of the cardiac rhythm. A simple lesion of the cardiac muscle is capable of producing by itself all the symptoms of disturbed rhythm. We shall see later that the paroxysms in several cases were arrested by pressure upon the cervical pneumogastric. The fact that the intra-cardiac ganglia received and responded to this artificial stimulus is proof of their integrity, in those cases at least.

[1] Lancet, 1890, vol. i., p. 641.

The pathological evidence, as far as it goes, supports the theory that we are dealing with a cardiac and not a nervous disease, but the next autopsy may demolish this theory completely.

It may be said also with truth that the clinical picture of the milder forms of tachycardia accords better with the assumption of a neurotic disturbance of the heart than with the presence of so formidable a disease as myocarditis. In some cases the symptoms are absent for years, or may disappear apparently forever.

But, in answer to this, we have the authority of Fagge[1] that fibroid disease of the heart sometimes gives rise to no symptoms whatever. Huchard,[2] also, states that sometimes at autopsies extensive disease of the cardiac muscular fibres is found, which during life had caused no marked symptoms. In other cases apparently insignificant lesions had caused grave symptoms. These discrepancies he explains by the existence in the heart, as in the brain, of regions that are tolerant or indifferent in regard to destructive lesions, and of other intolerant regions, the latter depending on the importance and the absence of anastomosis with an obliterated artery, and also depending on the function of the affected muscular fibres.

The intolerant regions are especially the papillary muscles and the fibres in contact with the ganglia and the interventricular septum—particularly the last, because on it depends the harmonious working of the two ventricles. This explanation of Huchard accords with the post-mortem appearances in Fraentzel's case. For, as you may remember, the papillary muscles and the ventricular septum were both involved in the degenerative process, thus accounting for the rapidly fatal ending.

Perhaps in the milder cases, with infrequent paroxysms, the interstitial growth is situated in the more tolerant regions of the heart-muscle.

However, as I have already intimated, two autopsies do not furnish a very secure foundation for a new theory, and it is probably wiser for the present to agree with Fraentzel that the pathology of the affection is still very obscure.

Diagnosis.—A well-marked case of essential paroxysmal tachycardia can hardly be mistaken for any other disease. There is no exophthalmos nor any enlargement of the thyroid; in Graves's disease, also, the acceleration of the heart's action is continuous, and never attains two hundred beats a minute, and the pulse is always perceptible at the wrist.

Organic lesions of the vagus cause permanent tachycardia; they are accompanied, too, by respiratory and gastric disturbances. The disease does not last long, being soon fatal. Lesions of the pons or medulla would also give a constant acceleration of the pulse and be attended with motor or sensory disturbances, and very soon cause death. Angina pectoris is excluded by the absence of the intense pain characteristic of that disease. In angina, also, the pulse does not attain such rapidity.

Reflex tachycardia is more difficult to exclude, if there are present any gastric, uterine, or ovarian disturbances at the beginning of the paroxysm. In the cases referred to above, the attacks occurred at a time when all the functions of the body were in perfect order. As to whether, in a given case, the symptoms are due to a paralysis of the vagus or to an excitation of the sympathetic, that is, as Fraenkel[3] has said, only a matter of theoretical interest. Nothnagel gives the following points of differential diagnosis: If the pulse-rate is very rapid, but the rhythm is even and regular; if the heart impulse is weak and there are no other symptoms except such as are secondary to incomplete emptying of the heart, and if, finally, there is noted a paresis of other nerve-tracts running in the vagus, then we may assume a paralysis of the vagus. But when

[1] Practice of Medicine, vol. ii., p. 52.

[2] Journal de Méd. de Bordeaux, 1889, May 26 and June 2, reviewed by Whittier, Annual of Univ. Med. Sciences, 1890, vol. i., Section B, p. 43.

[3] Charité Annalen, 1878, Jahrgang v., p. 273.

the heart impulse is strong, and the peripheral arteries are well filled and firm, or when there are present other symptoms of irritation on the part of vaso-motor nerve-tracts, then there is evidently an excitation of the excito-motor cardiac nerves.

Fraentzel suggests that in addition to the above rules the effect of our therapeutic measures will also aid in diagnosis. If morphine quiets the attack, it must be due to a condition of excitement, but if there is paresis of the vagus then digitalis in moderate doses will allay the paroxysm. In many cases, however, both morphine and digitalis are without effect.

Prognosis.—The prognosis of the disease is very doubtful, especially at the beginning of a paroxysm. The unfavorable factors are—a tendency to syncope, extensive pulmonary congestion, great præcordial pain, and the unstable condition of the heart at the end of a long attack.

Of the 27 cases under consideration 8 died, 2 or 3 were apparently cured, and the others remained always liable to attacks, with possible termination in collapse, syncope, or fatal pulmonary congestion.

Dr. Wood, however, takes a more hopeful view of the affection. He believes that it has no tendency to shorten life or to develop organic disease. His patient was still living at the age of eighty-seven, though he had been subject to the attacks from his thirty-seventh year. But the disease was evidently of a very mild form in his case, as the paroxysms were of short duration, never exceeding twenty-six hours. We have already seen that the dangerous secondary complications do not develop in such short attacks.

Treatment.—In the treatment of essential paroxysmal tachycardia we have to consider, first, the management of the paroxysms themselves, and second, that of the intervening periods, with a view to prevent their recurrence.

During the paroxysm the patient should rest in bed, as syncope is always a possible accident. All movement and exciting emotions should be avoided. The patient should not get up too soon after a long attack. Great caution should be exercised in examining the heart; in two cases percussion of the præcordia caused the return of a paroxysm.

The medicinal treatment is not very satisfactory. Digitalis is efficient in some cases, but fails entirely in others. Morphine may arrest the attack when it is due simply to excitation of the sympathetic.

I could not see that either drug had the slightest influence on the heart-rate in my case. Perhaps larger doses might have been more effectual. Morphine is probably always of some service, as it calms the patient and makes him more comfortable.

Caffeine, nitrite of amyl, and nitro-glycerine are all of no use. Ergotine would seem to be indicated, but has not been tried, so far as I know.

Blood-letting may relieve the condition of venous stasis that occurs in the long attacks. In two cases leeches applied to the præcordial region caused marked improvement, though both of the patients eventually died.

One patient was able to delay the paroxysm by taking a deep inspiration and then suspending breathing as long as possible. Nothnagel thinks that a deep inspiration exerts a strong stimulus on the pulmonary fibres of the pneumogastric. This stimulus, transmitted to the medulla, excites the activity of the inhibitory cardiac centres.

Dr. Wood's patient could arrest the paroxysms by swallowing cold water or hot coffee. This, in his opinion, is an argument against the probability of the rapid pulse being due to pneumogastric paralysis, since Meltzer has shown that swallowing is attended with loss of tone in the vagus centre, and consequent weakening of the cardiac inhibition. But Dr. Wood proceeds to answer his own argument by saying: "It is, however, probable that the arrest of the tachycardiac paroxysms by the swallowing of hot or cold liquids is due to stimulation of the inhibitory cardiac centre, produced by irritation of the peripheral nerve-filaments of the stomach." This explanation is probably the true one, as his patient had learned by experience that the best method was to swallow the water as rapidly as possible, and as cold or as hot as he could take it; if the water was only moderately cold, much larger quantities of it were required.

Compression of the vagus in the neck, at the level of the thyroid cartilage, was successful in slowing the heart in several cases. In one of these cases the carotids were also compressed and the patient fainted. Afterward the carotids were avoided, the pressure being applied behind them, and the attacks were arrested. Brieger tried this method in his case and was able to reduce the pulse from two hundred and fifty beats to eighty in the minute. The effect, however, was only temporary, during the continuance of the pressure. Pressure in the right ovarian region also slowed the pulse, causing at the same time marked cyanosis.

The occurrence of icterus was without effect on the pulse in his case. In Röhrig's patient,[1] however, who suffered from tachycardia associated with aortic disease, the development of icterus twice reduced the pulse from two hundred and twenty to forty beats, the pulse rising each time upon the disappearance of the icterus. This experience has suggested the use of the biliary salts in cases of paresis of the whole inhibitory system when digitalis is without effect. They are believed to act by depressing the motor centres in the heart. Choleinate of sodium, prepared from ox-gall, has been recommended for this purpose by Gerhardt, who has used it with good effect in Graves's disease.

Electricity is sometimes of service, one pole being applied to the back of the neck, the other to the trunk of the vagus or to the præcordia.

In endeavoring to prevent the recurrence of the paroxysm our chief reliance is in hygienic measures. The patient should avoid all over-exertion, whether of mind or body. He should entirely abandon the use of tea, coffee, alcohol, and tobacco, or at least use them only in great moderation. The digestion should be carefully looked after, and iron given in case there is anæmia.

54 West Eleventh Street.

SYRINGOMYELIA.[2]

By L. WEHLAU, M.D.,

SCRANTON, PA.

I PRESENT you this case this evening both on account of its extreme rarity, especially in this country, and because of the almost pathognomonic character of the symptoms the patient presents. As you all know, syringomyelia has not been observed many times in the United States. Upson, writing in 1889, Wood's "Reference Handbook of the Medical Sciences," vol. v., gives but one case, that observed by Dr. M. Allen Starr, in 1888, and Sajous's *Annual of Medical Science* for 1890 mentions only a doubtful case of Upson, and cases of Van Gieson, Church, and Hawley. In 1890 J. C. Shaw presented a case before the Academy of Medicine, New York City. In Europe the disease seems to be more common, and Schultze believes it to be as frequent as multiple cerebro-spinal sclerosis. The history and present condition of my patient is as follows: J. H——, fifty-three years of age, a boiler-maker by trade, complains of burning, painful sensations over the nape of the neck, over and between the scapulæ, shoulders, and arms. The burning infrequently gives place to cutting, drawing pains, or to numbness and tingling. These sensations are not confined to the course of certain nerves, but extend over large areas, a whole limb, for instance, irrespective of nervous supply.

His suffering is often so intense as to disturb his sleep

[1] Arch. f. Heilkunde, Jahrgang iv., p. 407.

[2] Read at the May meeting of the Lackawanna County, Pa., Medical Society.

and interfere with his work. Sometimes he has a cramp-like feeling in the forearms and hands, especially in the left hand, and pressure over the cervical and dorsal spinal processes causes pain. Besides sensory symptoms he complains of loss of power in the upper extremities, and you see that all the muscles connecting the arms with the trunk, also the muscles of the upper arms, are much atrophied. Both forearms look well preserved, but their wasting is plainly shown by the difference in their circumference. One inch below the elbow the right measures 10½ inches; the left, 10⅜ inches. The wasting of the muscles of the hand, especially the interossei, gives to the fingers that position best known as "main en griffe," which condition is shown in the patient. On account of the great atrophy of so many muscles his strength has decreased, the dynamometer showing right hand but 25; left, 31. Fibrillary twitching in the wasted muscles is absent. The same process of atrophy is present in other muscles of the trunk, the glutei, and in the lower extremities, but to a less degree, the circumference of the right calf being 12⅞ inches, and of the left, 12½ inches. In regard to the deep reflexes, I may state that the reflexes of the wrist and tricipites are gone on both sides. The knee reflexes are exaggerated, especially on the left side, with slight indications of ankle clonus. On account of the objections of the patient to electrical examination, a feeling of weakness and a cramp-like feeling being complained of after the first *séance*, it was dispensed with before any satisfactory result was obtained. In examining the cutaneous sensibility, marked impairment of the sense of temperature, pain, and to some degree of tactile impression, becomes manifest. Tactile impressions are poorly conducted by the hands and by the soles of the feet, *i.e.*, the stereognostic and tactile sense of the hands is impaired to such an extent that he is not able to recognize with eyes closed a coin or bunch of keys. I may remark that this condition is an exception to the rule, the tactile sense generally remaining intact in these cases, though authors agree that it becomes or may become impaired in well-advanced cases. Sensations from some points of the extremities are not perceived and responded to as quickly as they should, giving the phenomenon of delayed sensation. The algesic sense, and the ability to distinguish between heat and cold, is much blunted over the whole surface of the body, from the hips upward, on the hands, abdomen, thorax, face, neck, and arms. Water, near the boiling-point, is felt to be warm only, no painful impression being felt. Needle-pricks on various parts of the body are felt as tactile impressions only, causing no pain. Almost the same condition is found in the lower extremities, but not quite to such an extent. The same degree of analgesia and thermal anæsthesia can be demonstrated in the oral cavity, on the tongue, lips, and inside the nose. The conjunctival reflex is preserved; a point above the exit of the right supra-orbital nerve, of the size of a dollar, responds a little better to painful and thermal impressions. The muscular sense does not seem to be much involved by the disease, though there exists a slight uncertainty in carrying the finger to the tip of the nose with closed eyes. He stands firmly with eyes closed, in spite of the diminished tactile sensibility of the soles of the feet.

In talking with my patient I have to speak loudly, and a long conversation is rather tiresome. An examination of the membrana tympani gives no clue to the deafness; for the membranes are in as good a condition as can be expected in a man of his age, although a little retracted, perhaps.

R. H. D. Contact O.)—(B. C. absent. A. C. diminished.
L. H. D. $\frac{C}{100}$)—(B. C. absent. A. C. diminished.

These facts point to nervous deafness, and in this case to an affection of the nuclei of the eighth nerve at the bottom of the fourth ventricle. In regard to the functions of the other cranial nerves, the analgesia and thermo-anæsthesia in the trigeminal region have been noticed already. After having described the symptoms connected with the motor and sensory spheres, let me turn your attention to the condition of the hands. On both you find the first phalangeal joint of the middle finger thickened, flexed, and anchylosed. The left middle-finger you notice also appears shortened, as the result of a dislocation of the second phalanx upon the palmar side of the first phalanx. The distal phalanx of the ring-finger is bent and points toward the ulnar aspect of the hand. On the phalangeal joints of all the fingers there are to be found either the marks of old ulcers or small recent ones; these affect only the skin. They are more prominent at present on the dorsal aspect of the phalangeal joints of the left index-, middle-, and ring-fingers. On the dorsal side of the second phalangeal joint of the left middle-finger there exists a warty, horny condition, apparently springing from the bottom of an old ulcer. These ulcers look at first like little blisters about the size of a pea or bean, the skin ruptures, and the ulcer forms, leaving afterward a smooth, depressed cicatrix.

Under the head of vaso-motor and secretory changes we notice that the patient says that he sweats very profusely on the face, very little on the body, and that his mouth is generally dry from lack of saliva. His poor appetite may be due to secretory changes of the stomachical glands; the bowels are constipated, and the bladder is emptied with difficulty.

These last two symptoms point to a deficient expulsive action of the bladder and rectum. Finally, I may mention a slight dorsal scoliosis, convexity to the right.

After having given you the history of my patient, I beg you to listen to the description of another case, taken at random from a series of five cases observed in the Heidelberg Klinik, published by Johann Hoffman in one of Volkmann's clinical lectures for April, 1891.

Mrs. E. H——, aged thirty-nine, married; cannot give any cause for her present condition; comes from a healthy family, has two healthy children; five years ago had a mild attack of diphtheria; three years ago she complained of a feeling of soreness and tension in the left shoulder, less when at work. At the same time she acquired a felon on the right index-finger, and deep cracks formed at the palmar side of the finger-joints, which gave but little pain. During the last two years she has noticed her left arm and hand becoming weak, and has felt fibrillary twitching in the small muscles of the hand. These fibrillary contractions became worse in cold weather, and often did not permit her to do needle-work. The left arm felt always cold, became blue in cold weather, and did not perspire as much as the right arm and feet. Since that time she has also been unable to distinguish hot and cold water with the left hand, and often burns her hand without being conscious of it. She still has tactile sensations, but they are not as acute as before. Like the left arm, the left occipital region also showed sensory alterations, it felt different from the right when she combed her hair. Fifteen months ago she suffered painless panaritia of all the last phalanges on the left hand, and a bulbous eruption appeared in the palm, healing very slowly. Also the right hand, she observed, was not as good as formerly, the fingers trembled much, and the right palm became more hollow and deep. On New-Year's day, 1889, she had an attack of influenza, with temporary difficulty in hearing and hyposmia. In February of this year she suffered from violent burning and biting pains in left shoulder and scapula. After using liniment without relief she applied a hot sand-bag, which made her feel more comfortable. In the evening, when her husband intended to rub her again with liniment, he found the whole region burned and the skin destroyed, the patient not having experienced any sensation from scorching. She has noticed during the last eight weeks that her legs tremble and shake, and she has a feeling of soreness and tension in the left calf, and peculiar sensations in the left thigh. She complains of great nervousness, and at the slightest provocation her legs commence to shake and twitch. Her general health is good, and

there are no psychical nor cerebral symptoms present. The woman gives the impression of a strong and robust person.

Looking at her face, a slight narrowing of the palpebral fissure, not due to paresis of the orbicularis or levator palpebrarum, but to a lesion of the cilio-spinal centre, could be seen. Examination of her back revealed a granulating surface of the size of a hand, the result of the application of the hot sand-bag. This granulating surface was healthy-looking. There was no kyphosis nor scoliosis, but the spinal column was somewhat tender to pressure in the cervical region. As a result of the atrophy and paresis of all the muscles of left hand, it approached the position of the "main en griffe," but the flexion of the fingers was not yet very pronounced, all the hand muscles showed active fibrillary twitching. All the extensors of fore and upper arm were distinctly paretic, but not atrophied, fibrillary contractions being present, though in lesser degree than in hand. Several of the muscles of the shoulder were also altered, for instance, the deltoid; dynamometer, 37 R., 27 L. The museles of the right hand were also softer and thinner than normal, and presented fibrillary twitching, but so far the functions were not seriously disturbed. The extensors of the right forearm were weakened and wasting, measurement showing that the circumference of the right forearm was 1 ctm. less than that of the left. In accordance with the trophic and muscular changes, the electrical reaction was diminished. R. D. slightly present only in the muscles of the left hand and the right hypothenar, with faradic reaction diminished, but not entirely lost. There was no rigidity nor tension of the muscles. The triceps reflex was gone on both sides, the wrist reflex was lost on the left, and exaggerated on the right, side.

The lower extremities were normal in regard to trophic, paretic, and spastic alterations. Abdominal reflex equal on both sides. On the right side there was exaggerated reflex of the ligamentum patellæ, tendo Achillis, and tibialis posticus. On the left side there was ankle clonus with greatly exaggerated patellar reflex. In examining the cutaneous sensibility, no alteration of the tactile sense was found, nor of the faculty of localization or of recognizing objects by touch with the eyes closed. The whole left occipital region, left side of the neck from the lower maxilla downward, the nape of the neck, the left arm, and the whole left side of trunk were hypalgesic, analgesic, and thermanæsthetic. In front this disturbance of sensibility extended down to the inguinal fold, and behind almost to the knee. The thermanæsthesia and analgesia were almost complete in the left arm and shoulder, where piercing of the skin was painless and differentiation of boiling- and ice-water was impossible. Hypalgesia and diminished thermanæsthesia were also noted on the right hand. Secretory and vaso-motor symptoms were not present, and the muscular sense and co-ordination were normal.

Now, after having gone over the symptoms of these two cases, let me invite you to follow me on the pathological field of syringomyelia. Cavities have been found in the spine as early as in the seventeenth and eighteenth centuries, and Ollier was the first in the second decade of our century to name this condition syringomyelia. But so little was known about the connection between post-mortem discoveries and the symptoms during life, that even Erb, in his great work on spinal diseases in Ziemssen's "Cyclopædia," in 1875, classifies syringomyelia under the "rara et curiosa," and as late as 1886, Charles K. Mills and J. N. Lloyd, in their articles on tumors of the spine, confine themselves to the following statement, speaking about tumors of the spine in general: "Among the changes which occur, probably at a late stage, are the formation of cysts, either large or small, either in the substance of the cord or consisting simply of a dilatation of the central canal of the cord. This condition is known as syringomyelia, and is of exclusively pathological interest."[1]

[1] Vol. v., p. 1091, Pepper's Handbook of Medicine.

The chief alteration in this disease consists in the formation of cavities in the central gray substance, near the central canal and often united with it, seeming then to be simply a very wide central canal. We have a large central cavity in hydromyelia, a congenital malformation, and a remnant from the embryonic period. The two conditions are distinguished by the microscope when in hydromyelia we find the walls of the cavity lined with epithelium. There are cases reported in which cavities were detected post mortem, and which did not show symptoms during life. I believe that such cases belong to the congenital form of hydromyelia, and not to syringomyelia, strictly speaking. It is now generally accepted that the cavities are due to the softening, liquefaction, and final reabsorption of a neoplasma, a glioma. The gliomatous tissue forms in the gray matter near the central canal, slowly invading by its growth the spinal cord in every direction. The gliomatous tissue is very apt to undergo retrograde metamorphoses, as colloid, myxoid, or fatty degeneration. Owing to the great vascularity of the neoplasm, ruptures of blood-vessels and hemorrhage into its substance and into the adjacent parts are very common, increasing the dislocation, compression, and destruction of the cord-tissues, and forming foci of myelitic and sclerotic processes. When the white substance of the cord, with its different tracts, is invaded and compressed, then ascending and descending degeneration will take place. You understand now easily, gentlemen, how syringomyelia in its different stages and localizations may give us the symptoms of all the systemic and asystemic lesions of the cord. But syringomyelia does not limit its lesions to the cord alone. The gliomatous process invades, in the course of time, the medulla oblongata, pons, and other parts of the brain.

In turning now to the symptomatology, we find a great number of cerebro-spinal disturbances before us, in the motor, sensory, trophic, and vaso-motor spheres. The gliomatosis of the cord may extend over a long distance, even invade the whole length of the spinal medulla, but it shows in most cases a predilection for the cervical enlargement, so we see the first symptoms generally manifested in the hands, arms, and upper part of the trunk. At first sight you see the points of resemblance which this disease has with progressive muscular atrophy, a disease caused by the slow and gradual destruction of the multipolar cells of the anterior horn, leading to degeneration of the motor nerve fibres, and to paralysis and wasting of the muscles. The muscles become thin, flabby, weak, soon tire out, and, according to the number of fibres remaining intact, show every degree from slight paresis to total paralysis. In connection with the muscular and spinal changes, we see the electrical reactions altered. The faradic excitability may be normal in some muscles, in others diminished and lost; also with the galvanic current we may have normal, diminished, or no reaction or R. D. The deep reflexes may stay normal for a long time, but will be lost with the progress of muscular waste and the destruction of cord-tissue. We may find them exaggerated as the expression of secondary descending degeneration or compression of the motor tracts, and in the lower extremities we may, under this condition, often meet with adductor spasm and ankle clonus. Coming across a case presenting progressive muscular atrophy, increased reflexes, and perhaps bulbar symptoms as the expression of a pathological condition of the pons and medulla oblongata, we have all the symptoms of amyotrophic lateral sclerosis. But neither in progressive muscular atrophy, nor in amyotrophic lateral sclerosis, have we to deal with sensory and vaso-motor disturbances and trophic symptoms of a kind that will be described later on. In syringomyelia the conditions of cutaneous and deep sensibility are of paramount importance, and of a peculiar character. The subjective complaints consist often in burning sensations, or in a feeling of cold, sometimes so intense as to deprive the patients of their sleep; drawing pains or a feeling of soreness and tension, or

perhaps numbness, may be frequent. These pains and sensations are not, as a rule, confined to the course of a single nerve, but attack, irrespective of nerve-supply, regions of small size up to a whole limb. The lightning pains of locomotor ataxia are seldom met with. Very often pressure pain, or spontaneous pain of the cervical or dorsal spinal column, presents itself. But of greater value in the way of diagnosis are the objective sensory symptoms, and here we find the sense for temperature and pain diminished, even to perfect thermanæsthesia and analgesia, while the muscular and tactile senses are well preserved, including the faculty of localization and stereognostic capacity. But it is considered by some authorities that the tactile and muscular sense may also suffer in well-advanced cases.

To explain the destruction of some, and the preservation of other, sensory functions, I beg to call your attention to the following points: From the fact that the sensitiveness to temperature and that to pain are generally lost together, we may safely infer that both sensations travel in close vicinity or in the same tract in the spine, and pathological facts locate this tract in the central gray substance, near the junction of the anterior and posterior horns. A lesion affecting, like glioma, the central part of the gray matter, as a locus prædilectionis, certainly destroys first the sensitiveness to pain and temperature before attacking the tracts conducting the impressions of touch and muscular sense, located more posteriorly in the columns of Burdach and Goll.

But it must be added that Spitzka had reason to place the algesic tract at the periphery of the posterior column, near Lissauer's analgesic tract, while Gowers believes them to be in his antero-lateral ascending tract; though Birdsall, in his review on spinal diseases in Sajous's *Annual* of 1890, does not even mention the opinion of these two observers.

Of greatest interest are the trophic alterations. We have mentioned already the wasting of muscles due to compression, infiltration, and destruction of the anterior horns by the growing glioma. But as the trophic centres for the skin, hair, nails, subcutaneous tissues, joints, bones, etc., are situated near the central canal, so we can expect also morbid alterations of these organs; and really among all these patients we shall find a history of skin affections, often pemphigus-like, or of œdematous, eczematous, or erythematous character, of ulceration, of panaritia, of bone disease, especially great fragility of the bones, leading to fractures which give very little pain. In some cases of syringomyelia we find that this process goes on to destruction and loss of phalanges and whole fingers, so that such patients may give us the impression as if suffering from Morvan's disease or lepra anæsthetica; but in both the latter diseases we have to deal with a disease of the peripheral nerves, a peripheral neuritis, and though the cases may look almost alike we shall, after careful examination and longer observation, be able to differentiate. One point is to be kept in mind, viz., that the preservation of tactile sense will decide in favor of syringomelia, for this sense will suffer alike with the senses for temperature and pain in lepra, peripheral neuritis, and Morvan's disease. The joints show a number of affections: Chronic and acute inflammation, arthritic processes, thickening, anchylosis, etc. It is an open question whether the kypho-scolioses so often found in syringomyelia are not due more to trophic influences on the joints and bony structures than to faulty equilibrium of the supporting muscles.

Of vaso-motor disturbances I may mention stasis, ischæmia, and hyperæmia; of secretory changes, anhydrosis, hyperhydrosis, and alterations in the secretion of saliva and tears.

In regard to differential diagnosis I may say that a confounding with locomotor ataxia can be easily avoided, as the condition of the reflexes, of the muscular sense, etc., should be sufficient to keep one from error. Chronic cervical pachymeningitis may be mistaken for syringomyelia, but the absence of symptoms arising from lesions of the central gray matter, the rigidity of the muscles of the neck, and spastic condition of other muscles and other symptoms, would rather point to meningeal affection. Certainly when gliomatosis has enroached also on the meninges, a differential diagnosis may become almost impossible.

Cases are known where the differential diagnosis between hysteria and syringomyelia was certainly not easy, and with your leave I beg to quote from Birdsall's report on spinal diseases in Sajous's *Annual* for 1890, page 26. B. Charcot, in a clinical leoture reported by Blocque, calls attention to the possibility of mistaking hysteria for syringomyelia. The character and sensory disturbance of the latter, namely, loss of sensibility to pain and thermal changes, with preservation of tactile sensibility, is a form found in hysteria, and may also be induced by suggestion. He relates a case, however, in which "this great simulator of organic diseases" imitated syringomyelia in a still more remarkable manner than by sensory features alone.

He exhibited a patient presenting loss of motility in the thumb and fingers of one hand, an œdematous tumefaction of the dorsum of the hand, loss of the pain and temperature sense of the head, with the lower fifth of the forearm, with normal tactile sensibility. The history of the case shows that on a previous occasion he had had a similar attack (except that then the tactile sensibility was also impaired) which ended so abruptly that he remarked, "If I had been at Lourdes, I would have considered it a miracle." The duration of the first attack was about a year. After an interval of months the trouble returned suddenly. Evidently a case of hysteria in the male, and not syringomyelia. In regard to the etiology of syringomyelia, not much can be said. Heredity, alcohol, injuries, etc., do not seem to have much influence in its causation. As to the course of syringomyelia, I may state that there is no certain rule in the appearance and succession of symptoms; vaso-motor, trophic, sensory, and motor symptoms may precede or follow each other or appear combined. The disease extends over a number of years, from ten to twenty, not without seeming improvements and intermissions which often last quite a period. It must not be forgotten, however, that from the nature of the disease sudden exacerbations, the result of hemorrhages, etc., may be expected.

The therapeusis is confined to symptomatic and palliative treatment. The physician can certainly do much to relieve the suffering of his patients, but care is to be taken not to establish the morphine habit in the effort to relieve the often excessively painful sensations. The iodides, counter irritation to the spine, electricity, care for proper hygienic surroundings, tonics, etc., all will help to prolong life and make it more comfortable.

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Removal of the Gasserian Ganglion for tic-douloureux has been done for the fourth time in London by Mr. William Rose. We understand that it has been done once in this city.

French Hospital in Constantinople.—The Sultan has issued an order authorizing the construction of new buildings for the French hospital in Constantinople. These will be quite extensive, covering an area of nearly two acres.

WHAT CASES SHOULD BE DRAINED AFTER ABDOMINAL SECTION.[1]

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At the present time there seems to be a considerable difference in opinion and practice in reference to drainage after abdominal operations. Some operators, relying upon strict antiseptic methods in their work, discard drainage almost entirely; there are others who are just as painstaking in every detail pertaining to antisepsis and cleanliness who use the drainage-tube very generally, and a few who drain after every section. Between these extremes there are many grades of opinion and practice. There are many reasons why drainage should be generally employed after abdominal operations. To a few of these I shall briefly direct your attention. We may have observed every antiseptic precaution in any given operation, yet who can say with absolute certainty that nothing had been overlooked, or that some break in the technique had not occurred which would cause septic changes in the fluid retained in the abdominal cavity after an operation. We may leave the abdominal cavity as clean and dry as possible at the time of closing it, yet there is always more or less accumulation of fluids during the first few hours following every operation. The fact that the retained fluid may become septic, and thus a source of danger, was observed and commented upon by Sir Spencer Wells, in 1859. The fourth case operated upon by him died in thirty-two hours afterward. At the autopsy he asked "Did she die of peritonitis?" There was serum in the peritoneal cavity, but he very significantly expressed a doubt if simple peritonitis was sufficient to cause such sudden collapse and death. He declares that if peritonitis killed her, it was indirectly by the formation of a morbid process. In seventeen autopsies recorded in Wells's first volume, published in 1865, he reports the presence of serum within the peritoneal cavity in every case, and none of those cases were drained. He describes it as "turbid serum," "red serum," "blood-stained serum," in varying quantities, from a few ounces to one pint or more; in every case death followed in from twenty-four to seventy-two hours. In examining the report of the autopsies in Baker Brown's series of one hundred and eleven cases you will find recorded that "within the pelvis was found a little bloody serum." When we recall the fact that the peritoneum is a large lymph-sac, and that the fluid within is taken up into the circulation with great rapidity, we can understand why these cases are overcome so rapidly by the absorption of a concentrated septic fluid; which condition we might have in any given case where drainage was not employed. It has been the prevailing opinion until quite recently that peritonitis was the cause of death in a large per cent. of those cases dying after abdominal operations, and the leading writers of but a few years ago state that peritonitis was the cause of death after ovariotomy in from twenty five to forty-three per cent. of all those dying after that operation.

In reviewing those reports with our present knowledge of the after-management of these cases, I am convinced that those writers recorded cases as dying from peritonitis, which we would not record as deaths from sepsis, or perhaps septic peritonitis. We have devoted too much attention to the treatment of peritonitis after operations, and thus overlooked the great source of danger, that of the accumulation and retention of serum in the abdominal cavity, and its rapid decomposition and subsequent poisoning from its absorption. The late Marion Sims fully appreciated the dangers arising from this cause and gave expression to his views in the following words: "There is no more reason why the system should not be overwhelmed by the absorption of concentrated septic fluid than by the rapid absorption of an over-dose of morphia." With these facts before us voicing the opinions of the eminent surgeons named regarding the dangers of fluid remaining in the peritoneal cavity after operations, we are amazed when we consider the long time it has taken to establish upon a firm basis the advantages to be derived from abdominal drainage. Again, when we consider the number of operators at the present time who only use drainage in complicated cases, in which there has been extensive adhesions, we are forced to believe that they have not given their patients the best chance for recovery. The amount of bloody serum removed from the peritoneal cavity after many of the simplest of the pelvic and abdominal operations is incredible to any one not accustomed to draining after such simple operations. This fluid may be perfectly harmless, I have but little doubt, so long as no decomposition takes place, but if that occurs the patient is in great danger. It is certain that if we remove all fluids as fast as formed there will be no danger from such a source. To leave the cavity undrained for the peritoneum to dispose of the fluid is to tax unnecessarily the powers of nature, a burden we as operators have no right to impose upon any patient when we have such a simple and harmless procedure at our command. The fact that nature is competent to dispose of the fluid accumulation in the majority of the mild cases is no argument to use against the employment of universal drainage; especially is this apparent when we recall the fact, which every one must admit as true, that no man can tell to a certainty in any given case whether or not nature can or cannot accomplish that task.

So far as I am aware, I am the first one to employ universal drainage after abdominal section. I have drained in every case of abdominal section which I have made since September 23, 1886, with but one exception, and I do not feel called upon to apologize for my results, except in one case, and that case was not drained and the patient died. This death I am now reasonably certain could have been averted had the case been drained. The patient was forty years of age, suffering from a bleeding fibroid of the uterus. The tumor was the size of a cocoa-nut and dipped well down into the broad ligament. The uterine appendages were removed without difficulty as there were no adhesions. The operation was a perfectly easy and simple one, and was made at the patient's home, and I was unable to see her afterward. As the tumor almost filled the true pelvis, I could not place a glass drainage-tube so as to drain the pelvis, and I decided not to drain it at all. The patient died fifty hours after the operation, with a high temperature and rapid pulse. At the autopsy several ounces of blood-stained serum were found in the peritoneal cavity. She died from sepsis.

I occasionally encounter cases at the time of closing the abdomen in which it appears as though a drainage tube was not necessary; still we are treated to the most extraordinary surprises, and in not a few of these very cases secure large quantities of blood-stained serum. Again, if there is hemorrhage the drainage-tube will notify us of its occurrence, and if there should be any difficulty developed about the pedicle the drainage-tube leaves a track to the surface that may be followed by any fluid which may be formed at that point. If we have placed the drainage-tube in a simple case, and at the end of eight or ten hours it is found that the case is one which does not require drainage, the tube can be removed without disturbing the patient in the least, and it has done no harm. If, on the other hand, this same simple case should have been one requiring the use of the drainage-tube, you have put the patient in the best possible condition to recover by its use.

In operations for the removal of the uterine appendages in long-standing inflammatory diseases, we find the adhesions always firm and extensive, and no abdominal operation can test so thoroughly the efficacy and utility of drainage as does that operation in these chronic cases. And here, where every case was drained, I have had a series of thirty-four consecutive cases with-

[1] Read before the Ohio State Medical Society, June 17th, 1891, at Sandusky, O.

out a death. I mention this to illustrate the point I wish to emphasize in this paper, a point I believe which is not duly appreciated by many operators. If we place reliance upon drainage, and not upon the absorptive powers of the peritoneum, we will have no reason to regret it, and we will save not a few lives which would otherwise be lost. In this branch of pelvic surgery I am certain every operator will agree with me that the adhesions are both firm and extensive, and on account of the large surface denuded of peritoneum these cases require the use of the drainage-tube for a longer time than most other abdominal operations, testing thoroughly its powers for good. The cases referred to I took as they came, both the good and the bad, all were feeble from long suffering and repeated attacks of inflammation; a few were bedridden, and two were brought in on the stretcher.

The objections to the drainage-tube that have been given at various times are that it is a source of septic infection, a frequent cause of hernia, a foreign body, a cause of irritation. and not infrequently omentum becomes fastened in the perforation, preventing its easy removal. As to the first objection I have seen no case of sepsis developed from the use of the drainage-tube; but it is evident that unless the utmost care is taken such an accident might occur. The tube should be pumped out every hour or two until it is removed. In my own cases I have seen two hernias developed in the line of cicatrix, but in neither of them did the hernia occur at the point where the drainage-tube was placed. I have seen no appreciable disturbance from irritation of the tube since I commenced using the small, perfectly smooth tube with no side perforations, which I had made in September, 1888, and used until October, 1889, when I substituted the small, perforated tube of Dr. Price, which fulfils the requirements for abdominal drainage perfectly. If the dressing is so arranged as not to make pressure upon the outer end of the tube, no apprehension need be entertained as to it causing trouble from irritation, provided it be removed just as soon as the fluid becomes straw colored. If one employs the old-style large tube, with large side perforations, there is danger of omentum becoming forced through the openings, causing difficulty in removing the tube and possibly favoring the development of hernia; but in the use of the small tube with the narrow perforations spoken of, these dangers are reduced to a minimum.

With these facts before us, I am convinced of the wisdom of universal drainage after abdominal section. I am aware that this will be considered by many as a useless and dangerous procedure, nevertheless I believe that it is correct. I have saved the lives of several patients by putting in a drainage-tube when it was apparently not indicated. So long as I can say this of a single case, and so long as drainage is the harmless procedure that it now is, I shall continue to give my patients the benefit of the doubt by draining every case in which the peritoneal cavity has been opened.

154 West Eighth Street.

The Treatment of Dysentery.—At a meeting of the Medical Society of London, held October 19, 1891 (*Medical Press*), Professor Bahadurji, of Bombay, read a paper on the treatment of dysentery, which he said was not a contagious or infectious disease, nor in any sense specific. He claimed to have reduced the mortality to almost nothing. Instead of endeavoring to keep up the strength of the patients by meat juices and extracts, which he said acted only as irritants, he gave arrow-root milk. In the way of medication he gave bismuth, Dover's powder, and soda, with the object of neutralizing the acidity of the blood, of calming the abnormal action of the glands of the large intestines, and of rendering the canal sweet and free from decomposition. He pointed out that the action of the ipecac and the alkali was to render the thick, sticky mucus more liquid, and thus enable it to be got rid of.

THE UPPER AIR-PASSAGES AND THEIR DISEASES.[1]

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If we attempt to analyze human life we discover its complexity and vastness. The science that would comprehend it in its origin, continuance, and end is of necessity broad and deep. It must name and record all physical parts, must observe their functions and relations to other parts, note their normal and abnormal conditions, know the means for preventing impairment and for restoring health. It must explain the relations of mind, memory, and reason to the physical, must survey the invisible borderlines of sanity, sleep, and death, and mark with exactness their limits.

As exponents of this science—that comprehends every other science—we are expected to disentangle with certainty and celerity many of its mysteries; to discover the causes and cures of all maladies, and be always ready to apply the proper remedy; to stand ever on guard ready to protect the health of individuals and of communities. At times we are made to realize that no intelligence below that which created human life can understand it, and we are overwhelmed by a realization of the responsibility we have assumed. But the world—and the science of medicine—progress, and we are in the grand struggle to advance. No man ever did better than we may do.

Practically, how can we best succeed? How can we know and do that which others are doing at their best? We shall never attain much beyond our aspirations. With the purpose comes the strength. We have to learn from those who give their concentrated attention to special branches, and gather the results of their experience.

All physicians cannot be specialists, the opportunity does not come to them to study a large number of similar cases. But in densely peopled sections—our large cities—it is difficult to prevent specialism. A successful treatment of what the patient considers a serious case, is sure to be spoken of among his friends, resulting in a new crop of patients with similar troubles. And, struggle as one may against it, he wakens to the fact that he is a specialist, treating largely a certain class of cases, the tendency being ever to narrow the field of operations and the operator. Good men struggle against this tendency, and learning something from each specialist—and much from them all—grow broad and mighty in mind and practice. They show their wisdom not in studying special departments less, but in studying all departments more.

I have the honor to speak to you upon a subject to which I have been compelled—by force of circumstances and my own volition—to give much attention. The upper air-passages and their diseases I believe to be well worth your careful consideration, and justly demand more study than has been given to them. If I urge this with earnestness it is to impress its importance—as the sharp stroke of a hammer is more effective than its simple weight. And when I declare diseased conditions of the nose and throat cause more suffering—directly and remotely—than those of any other organ in the human body, I express what I firmly believe to be true, and indicate the relative importance of a knowledge of these parts and their diseases.

Catarrh, so-called, is more universally prevalent than any other disease which afflicts the human family. It is more persistent in its course from bad to worse, involves more vital parts, affects remotely more important organs, and is more destructive to the achievements of life than any other disease—absorbing vital force when it does not destroy, and blighting where it may not consume. That, in a large proportion of cases, it can be

[1] Read before the Vermont State Medical Society, at Burlington, October 15, 1891.

cured, is no longer a problem to be solved. Catarrh is an effect of causes that may be removed. Charlatans, discovering our inactivity, have rushed in to possess this veritable Eldorado, realizing larger returns for their enterprise in this direction than for any and all other ventures.

In the medical, as in the commercial, world, success crowns the man who is ready to supply a large demand. Quick sales and small profits bring, in the aggregate, larger wealth than slow sales and large profits. If we can quickly relieve woes common to the masses we may win success; and this not in a pecuniary sense alone, for the true lover of his fellow-men seeks to do the greatest good to the greatest number with least delay.

If we are justly impressed with the importance of this branch of medical science, we shall find its study neither dull nor uninteresting. The anatomy, physiology, and histology of the nose and accessory sinuses, the mouth, fauces, pharynx, larynx, and lungs, the eyes, ears, and brain, will afford an ample field for investigation, while the pathology, therapeutics, and surgery give large opportunity for practical work. Material is always abundant; our hands need never be idle. The recompense is reasonably sure, that better part—the consciousness of giving great relief to suffering—which constitutes the major portion of every physician's compensation, is adequate.

Success in treating diseases of the upper air-passages—like success in other work—is the product of skill; but skill is largely acquired, and comes from experience; hence the need of application, of improving every opportunity for making a personal examination of noses and throats.

We should know the dangers to which these organs are exposed, their diseases, and necessities. We should learn to detect their assailants, to diagnosticate their pathological conditions, to differentiate the simple and complex, the benign and malignant; to decide what conditions should be soothed, what stimulated, what constringed; when medicines will cure and when surgery is required; what drugs are best, what operations needed—whether ablation, abscission, evulsion, or cauterization—and by what method. We should possess the best instruments and learn how to use them. Thus we will add dexterity to knowledge, and to science art.

We are living in an age of investigation, the etiological period of the world. Men challenge theories. Antiquated methods are criticised; that which bears the sacred seal of classic age is not exempt from prying eyes and polished shafts of sceptics. Ignorance is no longer a subterfuge of safety.

It is not necessary that we should consider at this time the anatomy of the upper air-tract, further than to observe its intimate connection with other organs. By continuity of tissue the nose is related to the maxillary, ethmoidal, sphenoidal, and frontal sinus; through the cribriform plate of the ethmoid to the brain and meninges; by way of the lachrymal canals to the eyes; by the Eustachian tubes to the ears; by the pharynx to the base of the tongue, the larynx, trachea, and lungs; by the œsophagus to the stomach; by the fauces to the mouth. The character of these various tissues, the mucous membrane, the vascular system, and the nerve-supply of the nose are interesting and profitable, and should be carefully studied. A want of time prevents our reviewing them here. The physiology and functions, the uses and abuses of the nose might well take more than all our time to-day. We may glance at the pathology, the therapeutics, and surgery, and consider briefly the causes, course, and cure of diseases of the upper air-passages.

What diseases most frequently attack these important organs? They are exanthematous, diphtheritic, tubercular, syphilitic, carcinomatous, scrofulous, erysipelatous, and inflammations resulting from irritants inhaled or ingested, traumatism, hypertrophies, and foreign bodies.

Catarrh is a secondary effect of these various causes, and is associated with hyperæmia, hyperæsthesia, and hypersecretion. Sneezing, coughing, obstructed respiration, pain at the bridge of the nose, superior maxillary and supra-orbital regions, through the eyes, ears, temples, and back of the head, are some of its symptoms or results.

Traumatic causes of catarrh are much more numerous than all other causes combined. I do not mean the immediate result of injury, but its more remote effects, discoverable after a lapse of years as deflected septa, exostoses, and ecchondromata.

The immediate effect of the diseases named are local and general. Their effect upon the general system must be carefully watched and combated. The patient must be treated, not simply his disease. We cannot enumerate here the effects which these diseases exert upon the general economy, nor discuss the question whether they are the primary lesions, or the local expression of general lesions. We know the attack is made somewhere, upon some part first, and I see no reason for doubting that the germs of scarlet fever, diphtheria, tuberculosis, and many other diseases may be received into and locate upon the most exposed of all parts of the body, notwithstanding nature's extraordinary effort to fortify the nose and throat against such attacks.

The local effects are manifested by an increased flow, often muco-purulent, from the nose, anteriorly and into the throat, by pharyngitis, uvulitis, tonsillitis, laryngitis, bronchitis, and gastritis; by mouth-breathing, asthma, hay-fever, and hoarseness; by ringing and other noises in the head, by partial or complete deafness, inflamed eyes, nasal voice, anosmia, and impaired functions generally.

Of the universality of these diseases and their dire effects, we note: they prevail from Maine to California, throughout all climates, at all seasons, among all people, through all classes, at all ages, in every generation.

The persistency of chronic catarrh is proverbial. Like lepra, it is reputed incurable. It has baffled the sages, mocked at assailants, defied the schools, laughed at "pathies," and held its sway. "Faith-cures" have failed as signally as execrations of the damned.

Like all persistent ills, it has had "remedies" innumerable. Snuffs, sprays, gargles, ointments, washes, swabbings, probings, powders, inhalants, blood-purifiers, respirators, inspirators, and finally expirators. Failures have been almost as numerous as attempts to cure catarrh. In my experience at the Throat Department of Manhattan Eye and Ear Hospital, since 1877, many pet plans and proposed methods for curing this condition have been distorted by practical tests and common sense, till their gnarled features are hardly recognizable. Yet, positive and wonderful progress has been made, and there is a survival of very excellent methods. The interest felt by our profession in this branch of the science has increased greatly in the last dozen years. From an ignored and almost unknown work of a few years ago, it is now justly attracting thoughtful men. I was impressed with this fact a few months ago, when, wishing to know what had been written for the Medical Society of the State of New York, I examined its published Transactions from the organization in 1807 to the present year, and was surprised to find no reference to these diseases during the first seventy-three years of its existence. The first evidence we have in its publications, that this Society considered catarrhal diseases worthy of its consideration was from the pen of Dr. D. B. St. John Roosa, in 1880, "On the Evil Consequences of Neglected Colds in the Head." During five years from 1880, nine papers were published calling attention to diseases of the upper air-passages. In the succeeding five years, sixteen papers on this subject found places in their Transactions; while in the last two years, thirteen papers on these diseases were presented to that Society. This shows an awakened interest in this department of medicine hardly equalled in any other. But I cannot think we have yet reached a just appreciation of its importance, or are likely soon to overestimate its value.

I have stated that traumatism is the cause of more catarrhal trouble than all other causes combined. It so far outnumbers other causes, and produces effects that best typify what we see and understand as catarrh, that this, alone, may profitably occupy all the time we have for this subject to-day. Bosworth states, in his recent work on "Diseases of the Nose and Throat," that, "Deformities of the nasal septum are probably the most frequent of all exciting causes of catarrhal inflammation." Certainly, the most frequent causes of these deformities are traumatic. Everybody has experienced the instability of uprightness, the uncertainty of our steps, the proneness to stumble—in childhood, if not since. The contusions from falls in early life, from fisticuffs a little later, from balls and bats and various accidents that befall this protruding feature, are quite sufficient to displace the septal cartilage and bring it in contact with some portion of the outer wall of the nose. By careful count and computation, four-fifths of all septa in dried skulls are distorted. We may add a large percentage of the remaining fifth, if we count deflections of the cartilaginous septum during life. Every deflected septum does not cause catarrh, something beside simply a deflection is necessary. But every persistent contact of surfaces that are not normally in contact in the nose will produce the condition we are calling catarrh; and further, this condition never exists where there is not, or has not been, some abnormal contact or obstruction. It is not necessary that there should be an occlusion of the nostril, an adhesion of surfaces, or even obstruction to respiration. Our attention has often been called by writers upon this subject, to the necessity of free drainage and an open respiratory tract. This is certainly not unimportant. But other obstructions may exist, obscure but of immense moment as etiological factors. Little points of contact are found to be the cause of great trouble. We observe a good percentage of patients who have a dropping into the throat, with chronic pharyngitis and offensive breath, yet can breathe freely through both nostrils.

To this condition, then, of abnormal contact of surfaces of septum and turbinated bodies—more frequently the middle—I want to urge your special attention in every case of catarrh. It may result from a deviation of the septum, or from congestion or hypertrophy of the turbinated tissues, from an osseous or cartilaginous spur, a cavernous turbinated bone, a polypus, foreign body, or other obstruction.

I read in some of our books that a "catarrh is the prime and great cause of hypertrophies and the narrowing of the nasal passages." If this be at all true, the reverse is certainly true. Contact causes catarrh. There is no doubt that the physiological function of erectile tissue in the nose, recurring at frequent intervals, does destroy the elasticity of the parts, and hypertrophic, or, more likely, hyperplastic changes result This produces the condition we speak of as hypertrophy, bringing surfaces in contact.

Here another stage in the causation of catarrh begins. The secretions so abundantly poured into the nasal fossæ, which are normally alkaline and bland, being retained in this most favorable situation for rapid deterioration, speedily become acrid and irritating to the tissues over which they pass, as they overflow their prison bounds. These tissues in turn become inflamed and carry forward the devastation. It is thus that catarrh becomes chronic, tending ever to grow worse and extend its ravages to all communicating and accessory parts, its putrescent vapors to the lungs, and putrid matter to the stomach.

Otologists tell us that nine-tenths of all deafness results from middle-ear disease, induced by nasal and pharyngeal inflammation. Dr. Roosa, in the paper referred to, speaks of "hypertrophied tonsils, thick voice, impaired hearing, narrow chest, and watery eyes," as results of neglected colds in the head. And I believe that bronchitis, laryngitis, tonsillitis, faucitis, pharyngitis, hypertrophic rhinitis and gastritis, being associated with are often caused by nasal catarrh.

We must not forget or fail to recognize numerous characteristic neurotic troubles caused by this contact of surfaces in the nose. The so-called catarrhal headache, supra orbital neuralgia, pain at the bridge of the nose, at the back of the eyes, in the ears, through the various sinuses—superior maxillary, ethmoidal, sphenoidal, and frontal—in the teeth and throat, and wherever branches of the fifth nerve may be distributed. Hay-fever and asthma are often, if not always, sequelæ of nasal irritation and belong in that large list of reflex or remote manifestations of local causes in the nose. Dr. Jacobi stated in a recent discussion of reflex causes of disease, at the New York Academy of Medicine, that "he had seen at least a dozen cases of chorea which had no other cause than chronic naso-pharyngeal catarrh, deviation of the septum, ozæna, hypertrophy of the tonsils, etc.;" and Dr. Baruch on the same occasion said: "The first positive case which removed my scepticism on the reflex influence of nasal peripheral irritation, is a cure of true epilepsy," and he related the history of this case and its cure by removing the cause in the nose.

If evidence were needed of the baneful effects of catarrh and all it implies, volumes might be written and opinions of recognized authority be multiplied to almost any extent.

The important question remains, How can catarrh be cured? "Is the cure of chronic nasal catarrh as difficult as has been supposed?" I tried to answer this question in a paper read before the County Medical Society of New York two years ago, and published in the *New York Medical Journal*, March 22, 1890. The conclusion arrived at was, "It is not so difficult to cure as by many has been supposed, for it is the result of removable causes in most cases." Having discovered the foe and its lurking place, it does not require a Hercules to destroy this Hydra, or if it does, our present age can provide the man. Common sense and skilful surgery are as potent as the club of the deliverer of Argos.

Remove the cause, which almost always may be found. The most frequent—because of its limited space and greater exposure to irritants and injury—is the middle turbinated body. Its pressure upon the septum is, I venture to affirm, the forerunner of a longer train of evils than any other simple pathological condition to which human flesh is exposed. Take away, by any means or instruments which you can use best, just a sufficient amount of tissue to relieve contact, and you will almost certainly cure your patient of catarrh. I must urge you to consider most carefully the various complications that may arise, the time and after-treatment required, the necessity for suppressing granulation-tissue that is prone to grow, the danger from operations so near a vital part, the conservatism and wisdom to be exercised in all these cases. But I cannot here consider drugs found to be useful, the means for disinfecting and keeping the parts cleansed, the constitutional treatment needed, the instruments, appliances, etc.

The importance of frequent applications to a diseased condition of the nose or throat can hardly be overstated, whether the disease be diphtheria, tonsillitis, a common cold, or any of the numerous conditions for which we use medicines. Whatever local effect is produced by medicine applied to these parts is quickly dissipated by the secretions which are so abundant, by constant use of the organs, and the impossibility of retaining for a considerable time anything in the throat. Decomposition of organic substance and absorption of the products, ptomaïnes, etc., produce septicæmia, and to prevent this result we must remove the cause. Cleanliness is indicated and essential, as in all surgery. To destroy the rapidly multiplying germs of diphtheria, and other diseases akin to it, we should order medicines to be given every fifteen minutes, day and night, from the first indication of the disease till its last appearance in the

throat. These remedies need not and should not, be disagreeable to the patient, but their invariable frequent administration should be enforced.

I cannot take your time to relate cases cured by the treatment I have indicated for diseases of the upper air-passages. They are sufficiently numerous to have convinced me of their utility. More than seventy-five thousand visits have been made by patients at the Throat Department of Manhattan Eye and Ear Hospital since my service commenced there, and with fourteen trained assistants we have studied and tested these methods thoroughly.

Ever since "The Lord God breathed into his nostrils the breath of life, and man became a living soul," every child born has received the same benediction, in the same manner. And so long as life lasts should the functions of the nose and throat be preserved in their integrity.

123 East Thirty-sixth Street.

THE EXTRACTION OF INCIPIENT CATARACT.

By S. DICKSON BARR, M.D.,

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My object in writing this article is to impress upon the profession the feasibility of the extraction of cataract in its incipiency and its advantages over the practice of waiting until the cataract is mature before operating.

I do not wish to force these ideas or opinions upon the fraternity, but to put them in such a light that there may be seen in them some food for thought, perhaps sufficient reason to justify them in testing the truth of the theory.

We all know the frequency of cataract and its complications, that too much study and thought cannot be given this particular subject. But, as far as I know, nothing has been written relative to the best time for operating before my paper in the New York *Medical Journal* of last September.

Since that time I have received a number of letters in reference to it from men in different sections of the country. Seeing the interest it had caused, I believed that an article discussing the subject more fully would not be amiss.

Every oculist has a fair percentage of cases of cataract in all stages of growth. In all cases the verdict has been, wait until the cataract is mature, with the exception of those of traumatic origin of dangerous character, and also those that are already ripe.

There has been no question as to the time for operating, except in critical cases. It was an understood law that the patient must wait until the cataract was mature or ripe, which meant the inability to distinguish anything but a light in a dark room.

This necessitated waiting for months and sometimes years, and caused a great deal of trouble, dissatisfaction, and inconvenience, not only to the patients themselves, but to their friends as well. Sometimes the cataract remains in a quiescent state, neither growing any worse nor any better, causing the patient to be in a semi-darkness for years in the hope that it may mature and become hard enough to remove.

This term of waiting is a question of great moment, and we must consider the advice as given above in all its phases: what it means to the patients, what it means to their friends, and, through these two factors, what it means to us.

The question is, Can we, by any means with justice to the patient and ourselves, prevent this long term of waiting and consequent distress?

We can by performing an operation in the early stage of growth; at the same time we get a better result, with a much smaller per cent. of after-trouble, than by waiting.

If this is so, then we save our patient and his friends a great deal of trouble, give a good vision, and cover ourselves with glory in their eyes.

Should we send the patient away with the advice to wait, we would be very apt to lose him, since he would likely consult some other specialist, and should this one prove to be bolder than we, the case is sure to be lost to us. We lose the case through a fear of operating too soon, which fear I now know to be unjustifiable.

To begin at the beginning, we must first take a cursory glance at the anatomy of the parts.

The crystalline lens is a bi-convex body placed directly behind the iris, the anterior surface touching it for a considerable area. It is situated in the hyaline fossa, a depression in the vitreous, and is held there in a capsule by the suspensory ligament, or zonula of Zinn.

The lens is composed of long fibres or cells arranged in a concentric manner. These fibres are laid down at the periphery, and the lens being in a capsule the central fibres are compressed and packed closely together. This growth continues to the end of life, the lens becoming more and more compact. The gradual loss of accommodation confirms this fact.

Donders represents that the refractive power of the eye is at its maximum in a child of ten years of age, and that from that time it gradually decreases, until at the age of sixty years it is lost altogether.

What is the cause of this and what does it signify?

Certainly the ciliary muscle does not begin to degenerate at this early age.

If it is not the ciliary muscle, then it must be the crystalline lens which changes, since these two are the only factors concerned in the accommodation.

We now understand that the lens after the age of ten years grows more and more solid and compact every year, and after the age of sixty years is in such a condition of solidity that it cannot be changed by any amount of action or effort on the part of the ciliary muscle. But we know that the accommodation for near vision is lost about the age of forty years, showing that the lens is quite solid by that time.

A cataract is a change undergone by the crystalline of the nature of degeneration and not from any inflammatory conditions. It is a shrinking of the fibres, an atrophic change. As this change goes on the lens substance grows brittle and scaly, the fibres are dead and without sufficient adhesive power to hold together, they change into molecular detritis.

Those here who have operated upon an old or mature cataract are aware of the fact that small particles of lens substance are almost invariably left in the eye and have to be removed after the lens itself is extracted, and all the particles cannot then be always taken out, but remain to form a secondary cataract. It may always have been noted how easily the fibres of the lens can be separated and small pieces scaled off after extraction. It is not so with the cataract in the stage of incipiency. That is a mass of the consistency of gum, smooth and solid. The lens is not opaque, but clear, with the exception of a few cloudy streaks, the depth of the opacity being dependent on the length of time the degenerative changes have been going on.

Those who have been in eye dispensaries and hospitals have, no doubt, seen cases in which, from traumatism, there was dislocation of the lens and perhaps imperative necessity for removal. The operation has been successful, resulting in good vision, in those cases where there were no complications. Among them have been lenses which were not opaque in the least, and were removed because they were in a position where, if they remained, they would likely cause a great deal of trouble.

Why should these operations be successful and not the one for incipient cataract? One case in particular that I know of: A man, some years ago, came to Moorfields, the London Eye Hospital, having been kicked in the face by a horse. On examination it was found that the corks of the shoe having struck the inferior portion of both eyeballs, had driven the lenses out of their position and lodged them in Tenon's capsule, from which position they were removed by merely opening the conjunctiva. The man had good vision after.

The capsule is not ruptured? I will allow that and still the fact remains. I am arguing for the kind of operation to perform. Remove the incipient cataract, in the capsule, if you will, but remove it. At the same time it makes no difference whether the capsule is ruptured or not after the age of forty-five, with some few exceptions.

I know this from experience, as I have invariably opened the capsule without any ill results. These cataracts, when removed in their incipiency, are hard and smooth, and so clear that I have taken them between my fingers and read small print through them enlarged to two or three times the original size by the magnifying power of the lens. They have really not become cataracts.

In cataract operations I have had less trouble, less loss of vitreous, and better vision obtained, as a rule, the earlier the operation.

In operating for cataract I usually follow von Graefe up to the capsulotomy. In rupturing the capsule I use a right and left cystitome with a sharp, knife-like point. It is passed through the wound in the superior portion to the lowest point on one side of the lens and inside the dilated pupillary margin of the iris. The point enters the capsule at this low point only of sufficient depth to cut it and escape tearing the cortical of the lens. It is best to have an assistant to focus a strong light on the lens. It is then drawn up, delicately making a clean cut through the capsule. The same operation is done on the opposite side, then horizontally in the inferior portion, connecting the two vertical cuts as low down as possible. The next cut is in the superior portion, just at the edge of the lens. By doing this we cut out a large square piece, almost, if not quite, as large as the lens itself, and this can be removed along with the lens. In this manner of cutting the capsule we have an additional clamp on the cortical, since the lens has not shrunk sufficiently to separate the two. Now, instead of pressing on the inferior portion of the cornea with a spatula to force the lens out of the cut, I sometimes use a Crichett's spoon, passing this through the wound in front of the lens, catching it in the inferior part. At the same time a curved spatula is passed posterior to the lens in its superior portion in order to tip it forward into the wound. Then by carefully lifting the scoop the lens comes out entire, also the anterior portion of capsule, without the least trouble or the use of any force. There is no capsule remaining to form secondary cataract, not even enough to roll up and hold any lens substance which might give after trouble.

By operating thus early our percentage of successful operations will increase, since the lens will be removed before it has an opportunity to form cataracts that are troublesome. We also do not run the risk of the lens growing hypermature and the consequent difficulties.

There is hardly anything more to be said, except, try for yourselves and see. Don't keep your patient waiting, as his patience, as well as yours, will vanish like a summer dream.

I give here a compilation of a number of cases with their vision before and after operating:

Age.	Eye.	Vision before.	Vision after with glasses.	
87 years.	R.	Nil.	$\frac{20}{40}$	
70 "	L.	"	$\frac{20}{70}$	Secondary cataract.
69 "	R.	"	$\frac{20}{30}$	
55 "	R.	"	$\frac{20}{100}$	Secondary cataract.
65 "	R.	$\frac{6}{200}$	$\frac{20}{70}$	Secondary cataract.
66 "	R.	$\frac{10}{200}$	$\frac{20}{100}$	
78 "	R.	$\frac{20}{200}$	$\frac{20}{20}$	
65 "	L.	$\frac{20}{200}$	$\frac{20}{70}$	
60 "	R.	$\frac{20}{100}$	$\frac{20}{30}$	
69 "	R.	$\frac{20}{100}$	$\frac{20}{40}$	
68 "	R.	$\frac{20}{70}$	$\frac{20}{20}$	
69 "	L.	$\frac{20}{70}$	$\frac{20}{40}$	
60 "	R.	$\frac{20}{50}$	$\frac{20}{40}$	
63 "	L.	$\frac{20}{70}$	$\frac{20}{40}$	

1429 WALNUT STREET.

MANAGEMENT OF THE PAROXYSMAL INEBRIATE.

BY L. B. TUCKERMAN, M.D.,

CLEVELAND, O.

THE assertion so confidently made by some to the effect that paroxysmal inebriety can be "radically cured," seems to me open to serious question. I have seen altogether too many "cured" cases relapse. There is little doubt, however, that under proper management the duration of the paroxysms can be materially shortened, and the intervals between them prolonged to such a degree that, in the majority of cases, the disease need no more interfere with a man's business than a gouty diathesis with occasional acute exacerbations. But to attain this result the condition must be treated as one of disease pure and simple, and the family and friends of the patient must heartily co operate with the physicians in enforcing the necessary discipline. If the patient will himself co-operate, so much the better. The plan of treatment which has proven most effective in my own hands is as follows: The patient is put to bed and kept there for three or four days under the constant care of a nurse; if the patient be allowed to go about he does not recover physical tone as soon, and if he be left alone any length of time the fits of mental depression into which he is certain to fall greatly retard his recovery. Alcoholic liquor in every form is withheld from the first. Hot broth is given every hour, and hot milk at the usual meal times. Strychnia ($\frac{1}{80}$ to $\frac{1}{120}$ grains of the sulphate) is given every hour, and in case the heart acts feebly or the kidneys are sluggish it is combined with $\frac{1}{480}$ grains of digitalin. At night a sedative is given subcutaneously. Terchloride of gold and sodium ($\frac{1}{20}$ grains in thirty minims of water) has seemed to act kindly—more so than preparations of opium, either alone or combined with atropia or hyoscyamia, or those mixtures containing chloral or bromides. Coffee, hot, and without milk or sugar, is allowed if the patient cares for it. Irregularities of the stomach and sluggish action of the chylopoietic system are corrected with small doses of calomel ($\frac{1}{10}$ grain three to six times a day), combined with ipecac and soda. After the third day the patient is allowed to sit up, and easily digested solid food, such as rare beef-steak, etc., is added to his diet. From the fifth to the eighth day the nurse can usually be dismissed, and the patient returns to his business free from the craving for liquor for the time being. I add the qualification advisedly, for over-work, or over-worry, or prolonged privation of sleep, or any other cause which lowers the reserve of nerve-force below a given point, will occasion a return of the craving, and with this craving comes the delusion of dipsomania, viz., that, since he is cured, he can take one glass and then stop. He takes it, but he doesn't stop. As a precaution, after the patient has returned to his usual avocation, it is just as well to have him come to the office first daily, then every other day for a week or so, for his hypodermic of terchloride of gold. Every pains should be taken to impress both the patient and his family with the necessity of avoiding those causes which in his case seem to determine the attack, and of coming to the physician when the prodromata (most prominent among which are indigestion and insomnia) first appear. By taking these precautions, patients often go two years, and even longer, without a relapse. To make a long story short, dipsomania is one of the graver manifestations of nervous exhaustion. The principles that underlie its successful treatment are the same that underlie the treatment of other extreme forms of neurasthenia, viz., rest, forced feeding, and tonics, with proper care after recovery to forestall a recurrence of the attack.

A Sensitive Soul.—A physician of Ubeda, in Spain, recently committed suicide because his treatment of a case under his care was disapproved of by two consultants who were called in.

Clinical Department.

ABSENCE OF THE RECTUM—DEATH OF THE CHILD IN FIFTY-SIX DAYS.

By W. E. BALDWIN, M.D.,

NEWARK, N. J.

The following case of congenital absence of the rectum, which came under my observation recently, may be of interest, owing to the age to which the child lived:

On August 29, 1891, I was called to see an infant, female, five days old, which had had no passage from its bowels. Soon after birth it had vomited what was undoubtedly meconium. On examining the child the anus appeared normal, but I was able to pass a probe only about one-quarter of an inch. The child had nursed and slept as any healthy one would. I advised an operation, which was consented to by the parents. On September 4th I operated upon the child, endeavoring to reach the gut through the perineum, but was unsuccessful, the gut being too high up. I spoke to the parents regarding a colotomy or laparotomy, but they absolutely refused to allow either. The child recovered rapidly from the operation, still taking the breast every two hours and sleeping naturally. On September 11th, the child still being in good condition, another attempt was made to reach the gut through the perineum, still with no success. The child readily recovered from the operation, nursing and sleeping naturally. On September 16th it vomited for the first time, the vomiting lasting for a few hours only. The child then began again to nurse every two hours, and continued apparently healthy and in no pain until October 13th, when still another unsuccessful operation was performed. On October 15th the child was very restless and in much pain, the abdomen was very tympanitic, and there was persistent vomiting of dark stercoraceous matter. This continued until October 20th, when the child died, being kept under the influence of opium meanwhile.

Post-mortem examination showed marked dilatation of the stomach and intestines, the ascending, transverse, and descending colon being filled with fæces. The descending colon ended in a blind pouch just above the sacral promontory, the rectum being merely a fibrous cord. There were also marked evidences of peritonitis. This child lived to the age of fifty-six days, and nursed regularly about every two hours for forty-six days.

EUGÉNOL.

By LOUIS C. PETTIT, M.D.,

NEW YORK.

The chemical, physical, and therapeutic properties of eugénol having recently been given some attention by the profession, I may be permitted to recall some investigations made by myself some years ago, and to add some more recent observations on the subject.

The volatile oils from cloves, pimento, and the leaves of myrcia acris were found to contain respectively seventy-two, sixty-one, and forty-one per cent. of rectified eugénol.

Throughout the entire experiments the acid prepared from the three oils gave similar reactions under the same treatment, and their physical properties were alike. The acid was obtained most easily from the oil of pimento, but most economically from the oil of cloves.

The original investigations of Ettling and Bonastre (Gmelin's "Handbook of Chemistry") almost exhaust the chemical and physical properties of the acid, but a few practical points on its preparation may be of some value.

The oil of cloves should first be neutralized with a strong solution of potassic hydrate; the fragrant odor of the hydrocarbon will manifest itself when the point of saturation has been reached. The hydrocarbon can be freed from the mixture by distillation and the remaining solution of eugénate of potassium decomposed by the addition of sulphuric acid, when the eugénol will separate and float in brownish-colored oily-like globules and may be drawn off with a pipette, washed, and dried over sulphuric acid. The resulting crude eugénol rectified by distillation from a glass retort on a sand bath, gives a clear oily liquid, having when fresh a pungent odor similar to that of cloves, distilling at a temperature of 470° F., and having a specific gravity of 1.0785 (sp. gr. taken from the acid prepared from the oil of bay).

Former and more recent investigations have convinced me that eugénol has very decided and active therapeutic properties. Applied locally to the skin it first produces a burning sensation, this being followed by some local anæsthesia; applied to carious teeth it relieves pain when due to exposure of the nerve.

The eugénate of potassium when taken internally in a dose of 5 gr. produced active purgation and caused griping pains.

It is highly probable that the rectified acid has antiseptic and local anæsthetic properties.

WARD'S ISLAND, N. Y.

Progress of Medical Science.

The Germ Theory of Diphtheria from the Therapeutic Point of View.—According to the *Bulletin Général de Thérapeutique*, October 30, 1891, Dr. Jacques, of Marseilles, promulgates the following doctrine: While diphtheria is due to a specific germ from which emanates toxic properties, causing various disorders in their journey through the economy, the germ itself exists only in false membranes, and does not penetrate the blood or organs. The mouth and false membranes contain other micro-organisms beside the specific diphtheritic germ. Gargles are recommended every hour, first of perchloride of iron in solution, followed by washing the throat with warm water containing three parts boracic acid to every hundred parts water; and the alternate hour, a gargle of carbolic solution, 1 to 100, without washing the throat afterward. For very young children powders may take the place of gargles.

The Frequency of Gall-Stones.—Dr. Bollinger's experience in the Munich Pathological Institute from 1881 to 1886, and his further study of the question, has resulted in the following statistics as to the frequency of gall-stone disease. In Munich, 5.4 per cent.; Dresden, 7 per cent.; Basel, 8.8 per cent.; Strasburg, 12.3 per cent., or for the whole of central Europe, about 7 per cent.; so that out of every fourteen adults one is affected with gall stone. The proportion of men affected stands to that of women as two to five for the first three cities, while the Strasburg statistics show that women are affected five times as frequently as men. The explanation of this is found in faulty dress, laced corsets, sedentary life, restricted muscular work, pregnancy, etc., and as many of these conditions are more prominent in advanced years, we find that from twenty-five to thirty-five per cent. of women over sixty years of age are affected with gall-stones. In the post-mortem of forty-five women with gall-stones there was found seventeen times, or in forty per cent., a constricted liver. The fact that in women under thirty years of age gall-stones are four times as frequent as in men, speaks more for the pathogenic influence of dress than of pregnancy; that corset-lacing much earlier and much more intensely works than does the gravid state. The influence of age upon the existence of gall-stones is shown by the following figures: From fifteen to thirty years of age, 2.7 per cent.; thirty-one to sixty years of age, 5.9 per cent.; above sixty years of age, 15.2 per cent. Among constitutional influences, those of disturbed circulation are made prominent, especially a retarded blood-current, which leads to decreased secretion in the bile-passages, and thus to stagnation and thickening of the bile.—*Münchner Med. Woch.*

Surgery of the Brain.—In a memoir on "Surgical Intervention in Lesions of the Brain," Dr. Laurent believes he can claim: 1. That success follows operation in a certain number of brain lesions. 2. Hydrocephalus can, however, be regarded as incurable in the great majority of cases. 3. Cerebral abscess is frequently cured by operation. 4. Traumatic epilepsy in general justifies trepanning. This is shown to be less effective in Jacksonian epilepsy. 5. As regards tumors, operation is scarcely indicated, excepting for those which are small, well defined, and superficially situated. 6. Excision is the treatment by choice for encephalocele of medium volume. As a general conclusion the author says surgical intervention applied to brain lesions cannot ameliorate in a marked way, or cause to disappear, with rare exceptions, any but those which are superficial and limited.—*Le Scalpel.*

Fraenkel's Pneumococcus in Suppuration Processes.—Dr. Nannotti's observations go far to prove that the pneumococcus can give rise to true abscess in connective tissue, either before, during, or after the evolution of a pneumonia. The author relates four instances: one of abscess of the submaxillary region, one of the mastoid region, one of the tissue surrounding a tooth, and one of the perineum. The pus was carefully collected and found to contain only diplococci, and cultures showed the only micro-organism present to be that of Fraenkel. Eperiments on guinea-pigs showed all the special changes caused by the pneumococcus, of which the encapsulated appearance was typical.—*Il Morgagni.*

The Pathogeny of Congenital Hydrocele.—Dr. Verneuil presented a communication to the *Société de Chirurgie* which aids in the solution of the much disputed origin of the fluid in congenital hydrocele. Anatomically it is well-known that there is a communication between the cavity of the vaginalis and the peritoneal cavity, and clinically the tumor is reducible, but it has never been definitely determined whether the accumulation of fluid takes place first in the cavity of the tunica vaginalis or only enters it secondarily from the peritoneum. The author has long been of opinion that the liquid was of peritoneal origin. The patient who is the subject of the present communication was a strong man, twenty-five years of age, having but one testicle. The day following an unusual effort he noticed that the scrotum was enlarged and came to the hospital with a voluminous scrotal tumor, which was readily reducible. It was found that the abdomen was considerably enlarged and dull on percussion. Further examination discovered the presence of ascites and the existence of cirrhosis of the liver. In this case then the ascites had penetrated into the scrotal sac and produced a hydrocele of the variety called congenital in a man who since birth had been a monorchis. The peritoneal origin of the fluid was beyond doubt, and the case favors the theory of this origin for all congenital hydroceles.—*Gazette des Hopitaux.*

Dermatitis from the Use of Resorcin.—Dr. Ravogli says that resorcin is not entirely free from the danger of causing dermatitis when externally applied, and that while poisoning in man from its internal use has not yet been reported, decided and severe symptoms are produced by large doses. The local action varies according to the strength of application. In one to two per cent. it affects the epidermic cells, rendering them slightly stained, dry, and carnefied. In ten to twenty per cent. it macerates and destroys the epidermis, causes inflammation of the papillary layer with formation of blisters, purulent discharge, and by obstructing the meatus of the ducts of the sebaceous glands causes pustules. A number of cases are cited showing the tendency of resorcin to produce dermatitis not only in strong application but also in weak. Ointment containing 3 ss. to the ounce produced swelling of the whole face, neck, and scalp, with œdema of the eyelids, and the production of bullæ in a number of cases. One application of a solution of 3 ss. to ℥ iv. to the scalp of a physician with seborrhœa caused such an acute dermatitis of the whole head and neck that the gentleman could not leave his room for three days.—*Cincinnati Lancet Clinic.*

A New Remedy for Rheumatism.—According to the *Lyon Médical*, October 25, 1891, Dr. Betchine, of St. Petersburg, has made special studies in reference to *ephedra vulgaris*, a plant much esteemed by Russian peasants for its anti-rheumatic qualities. The bark and the root the observer found efficacious in acute articular rheumatism with high fever. In chronic rheumatism its most favorable action was merely a slight temporary amelioration. Unless fever is present the drug is not especially useful.

The Bromides and Increased Susceptibility to Infection.—In the *Mercredi Médical*, October 21, 1891, Dr. Féré takes up the assertion that patients undergoing bromide treatment are more susceptible to infection than others, particularly to the influence of Koch's bacillus. Upon this latter point there are no positive clinical evidences within the author's personal observation, yet during epidemics of pneumonia at the Bicêtre those persons under the influence of bromides proved most vulnerable. Animals inoculated with tuberculine virus after large doses of bromide began to lose ground immediately and soon died.

Bodily Weight in Mental Disease.—Dr. Fürstner, in the *Deutsche Arch. f. klin. Mea.*, p. 273, calls attention to loss of weight in certain period psychoses without loss of appetite or sleep, and not due to excessive muscular movements. Like albuminuria and rise of temperature, this loss of weight is evidently the result of some central influence. The chemical substratum is as yet unknown, as well whether this loss in bodily weight exists in psychoses other than periodic mania or melancholia.

Propagation of Insanity and Allied Neuroses.—It is estimated by Dr. Strahan, in the *Journal of Mental Sciences*, July, 1890, that while the number of the insane has only slightly increased during the past few years, deaths due to diseases of the nervous system in general have increased fifty per cent. within less than twenty-five years.

An Inquiry Into the Blood and Urine of the Insane.—In the *Journal of Mental Sciences* for October, 1890, Dr. J. Smith notes the lessened proportion of hæmoglobine among the insane, this peculiarity being greatest in cases of secondary dementia. It is not particularly marked in melancholia, general paralysis, and epilepsy. In spite of diminution in hæmoglobine and red corpuscles, the specific gravity of the blood is increased, indicating abnormal density of the plasma. The quantity of urine is great in general paralysis, reduced in secondary dementia, about normal in other forms of insanity, and apparently lessened in melancholia. Urinary solids exist abundantly in general paralysis, and are much diminished in secondary dementia, the other forms of mental disease presenting nothing unusual in this particular. Uric acid is excessive in general paralysis, epilepsy, and dementia. There appears to be a slight excess of phosphoric acid in epilepsy.

Calomel in Eclampsia.—Dr. Smits reports, in the *Frauenarzt* for September, 1891, the case of a young pregnant woman, nineteen years old, who had a series of convulsions followed by profound coma. The urine was very scanty and albuminous, and the skin was dry. Pilocarpine was tried without any good results, and it was then determined to give an active purgative. For this purpose Dr. Smits gave a large dose of calomel, which caused about twenty stools, containing many uric acid crystals. The patient recovered completely, and gave birth, six days later, to a dead fœtus.

MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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OVERCROWDING IN OUR CITY ASYLUMS.

IN the four insane asylums of the city and county of New York there are now 5,134 patients. The normal capacity of the buildings of the asylums is 4,089, hence there are over 1,000 patients crowded into wards already filled. Every year there is an increase of admissions, over deaths and discharges, of about two hundred and twenty patients, and this is the rate which has been steadily maintained and will continue in the future. To meet this increase there has recently been built a new pavilion on Hart's Island, and two new pavilions are being constructed on Ward's and on Blackwell's Island. The latter structures, however, will not be completed for a good while, and one of the old buildings formerly used for patients has been condemned, so that there is very little relief yet afforded, or in immediate prospect, for the overcrowded asylums.

Two plans for securing such relief are suggested by Dr. A. E. Macdonald in his report on the New York City Insane Asylums for the year 1890. One is to secure the old Emigrant Buildings on Ward's Island. These belong to the State, but as New York City, besides supporting its own insane, pays nearly one-half the tax for supporting the State institutions, it would be reasonable and just for the buildings to be given the city at a very low figure. The other plan is to enact a law putting it in the power of the Commissioners of the Sinking Fund to issue bonds for the erection of public asylums, just as is now done for school-houses and armories. Dr. Macdonald evidently looks upon this plan as the most feasible, and it is surely a more radical solution of the problem. It will occur to the taxpayer, however, that in time the city may get tired of paying for supporting two sets of asylums, and the question will come why the State should not take care of our city insane as long as we pay for it.

Dr. Macdonald calls attention to the interesting fact that the rate of increase of insanity in the city asylums continues about the same, and he argues that the idea that insanity is increasing beyond the general rate of population is ill founded. Nevertheless, we are confronted with statistics which show that in the population of this city one in every three hundred is insane, and that with the forty thousand annual increase in our city population one of every one hundred and seventy-five must be sent to a lunatic asylum. Or, to put it in another way, the growth of our insane population is about one-third faster than that of our total population. There is, however, some comfort in knowing that this rate is not increasing, but rather the reverse.

THE REPORT OF THE SURGEON-GENERAL OF THE ARMY.

IN 1890–91, the Army Medical Department cost our government about $215,000. With this sum of money the medical and surgical wants of twenty-five thousand men were attended to, and one hundred and fifty permanent or temporary posts were supplied with medical officers. We are told that the expenses of the coming year will be very much less. The sick-rate per 1,000 during the year was 42.71, which means that over four per cent. of the soldiers were sick all the time, the duration of each individual sickness being about fifteen days; the death-rate was 8.69 per 1,000. These rates are rather higher than those given for the armies of Great Britain, Prussia, and Austria.

With regard to the medical service, we note that forty-four candidates appeared for examination before the Medical Board, and five were found qualified.

The Army Medical Museum continues to grow, having received during the past year 964 specimens, making a total of 30,241. One of the interesting additions is the operating-table made for François Magendie in 1831, and used by Claude Bernard.

The Library has added during the year 4,083 books and pamphlets, making a total of 155,321 now on the shelves. Vol. XIII. of the Index Catalogue is well advanced.

We observe that Surgeon-General Sutherland and his assistants are making praiseworthy efforts to introduce a system of identification of deserters. Work in this direction was begun April, 1889, and despite many difficulties and drawbacks much good has already resulted; 34 recruits have been identified as deserters, 626 as ex-convicts, and 16 as frauds of minor grades.

MEDICAL MEN AS MAYORS.

SAYS *The Lancet*: "The detractors of the medical profession, and those who love to represent it as losing influence, should take into their consideration the remarkable list of medical mayors which we published last week. The following fourteen towns have chosen members of the medical profession to fill the civic chair for the ensuing twelve months: Brighton, Bedford, Lymington, Manchester, Barnsley, Bury, Stratford-on-Avon, Bridport, Chichester, Saffron Walden, Montgomery, Yeovil, Bristol, and Edinburgh. Never before now has a medical man been a Lord Provost of Edinburgh. Now he is not merely a medical man, but an anatomist of standing, and one learned above most in the sanitary side of medicine. Not the least instructive feature in the above list is the illustration it affords of the fact that one man can do so many different things well, and in a way to gain distinction among his fellow-men."

The more rewards a profession offers, the higher will be the class of men who enter it, and we trust that in

time it may be possible in this country for a physician to attain political honors without loss of dignity or self-respect. At present it is rather difficult. Since the early days of our country there has never been a medical man of acknowledged pre eminence who has held a great public office, except possibly a governorship.

SICK PAY INSURANCE FOR NURSES.

NEXT to physicians, or perhaps even more than physicians, nurses are most exposed to the contagion of disease. There is no greater protection against disease than a good physical condition, in which the stomach craves and digests food, the intestines, the kidneys, the skin, and the lungs remove waste products promptly, the liver elaborates the crude nutrient material into the finished product ready for use in construction and repair, and secretes in abundance the antiseptic bile; and, in short, the whole economy acts as one compact and well-disciplined army, with all its branches—the cavalry, the infantry, the artillery, and the engineer corps—working in harmony each with the other, and each in its own particular sphere. Bacilli may then attack, and micrococci may marshal their forces in vain, the human citadel is impregnable, and the garrison within laughs at the liliputian host which seeks to do it battle. But let discord enter in, let one or other arm of the service become disabled or insubordinate, then all are disabled, and the besieging forces without soon succeed in gaining an entrance, and the battle within the walls becomes a struggle for life or death, or for the even more to be dreaded imprisonment of chronic and disabling disease.

But, to return to our proposition, there is no better preservative against disease than sound physical health, which itself depends in great measure upon a regular life, a regular time for meals, and a regular and sufficient time for sleep. This the nurse cannot have, yet she (or he) is often living in a disease-laden atmosphere, breathing in pathogenic germs in such numbers that it would tax the strongest organism to resist them. Moreover, the labor of nursing is often excessive and most fatiguing; and who has not learned by his own experience that fatigue or the loss of sleep exposes one most certainly to "take cold," if nothing worse?

Some time ago a mutual aid, or rather a mutual sick pay assurance society, known as the Nurses Royal National Pension Fund, was organized in England, and was most successful from the start. The nurses were quick to see the advantage of membership in an association of the kind which would insure them independence if incapacitated for a longer or shorter period by disease, and in old age, should they attain it. Now a similar society has been organized in this country on the lines of the Royal National Pension Fund. Mr. Burdett, to whom was due in great measure the organization of the English society, spent several weeks here during the past autumn, and was invited to address meetings called for the purpose of organizing similar societies here in New York, Boston, Philadelphia, and Baltimore. Many of the most prominent physicians and laymen in these cities became interested in the work, and now the accomplishment of the desired object is secured.

It was decided to organize the association under the laws of this State, which require that a fund of $100,000 must first be provided for the security of the policy-holders, and this fund was immediately secured through the liberality of Messrs. J. Pierpont Morgan and D. O. Mills. It is intended to raise $250,000 as a permanent fund, which, with what may be received in the shape of annual dues from the members, will be ample to meet all sick payments and pensions. We congratulate all concerned in the establishment of this most useful organization, which, in the hands of those who have it in charge, cannot but prosper. And the thanks of American nurses are due Mr. Burdett for his efforts in their behalf.

News of the Week.

Execution by Electricity.—The sixth execution by electricity took place at Sing Sing, N. Y., on Tuesday last. According to the newspaper reports the victim writhed as usual in the death-chair and four contacts were required during a space of six minutes before death was announced. The current of 1,750 volts was applied for forty-nine and one-half seconds, the remainder of the time being allowed for intermissions, examinations, and discussions. The jury of experts maintained a forced silence as commanded, but the warden volunteered the statement that the execution was as successful as the preceding ones. Experiments will be continued. Kemmler's ghost is no longer lonesome. Next!

Memorial to Scarpa.—On the initiative of Professor Rampoldi, a committee has been formed at Pavia for the erection of a memorial to the celebrated surgeon and anatomist, Antonio Scarpa. It is intended to place the memorial in the public hall of the university, and the unveiling of it next year will be made the occasion of a great academic festival. The memorial space should be triangular.

Death of Dr. Herbert G. Lyttle.—On the first day of December, Herbert G. Lyttle, M.D., died suddenly. Dr. Lyttle, though not eminent in the metropolitan sense, was, however, successful in his way in the community in which he labored. He came from the central part of this State; graduated from the Medical Department of the University of this city, afterward serving as assistant and house physician in Charity Hospital, New York. Early in 1879, immediately after his service at "Charity," he began to practise in this city. To diligence, rectitude, and an intelligent kindliness he owed the lucrative practice he succeeded in making his own in a section of the city where nothing is easily attained. A little over three years ago he left New York to continue his work in Long Island City—a growing town of a mixed laboring population. The high esteem in which he was there held by all classes, of almost all nationalities, was shown by the crowds that reverently thronged into his home on the occasion of his funeral.

Further Regulations for the Care and Commitment of Lunatics.—The State Commission in Lunacy has promulgated more rules for the admission of patients to insane asylums, and for the character and conduct of those having charge of these institutions. The new rules which

went into effect on December 1st, provide that all persons committed to such institutions must at the time of admission be informed by the receiving medical officer of the character of the institution, and of the cause of detention. The second order has for subject the admission of voluntary patients into licensed institutions especially permitted to receive them, as well as committed patients. A blank has been drafted which all such institutions are required to have and furnish for such applications. The text of this is as follows:

"I.....hereby request the physician in charge of the above-named institution to admit me as a voluntary patient. I hereby pledge myself to submit to the regulations thereof, to carry out, or to aid in carrying out, all the directions which may be given for my treatment, and that my conduct will not be prejudicial to the good order and discipline of the institution.

"I do hereby declare that I am aware that the above-named institution is licensed by the State Commission in Lunacy to care for and hold in custody insane patients; that the physician in charge has fully explained to me the character of the institution, and that I am at liberty to depart therefrom at my pleasure.

"I hereby consent that the members of the State Commission in Lunacy may freely visit my apartments on any proper occasion, make such inquiries of me as they may deem necessary, and that I will make truthful answers thereto."

Here follows the signature of the patient demanding admission. To this application is appended a sworn statement of two witnesses, who testify that neither of them is a committee of the person and estate, nor a relative or guardian of said applicant, nor connected with the institution in which he asks to be received. They certify that they have read the application and that they believe the statements therein contained; that they are of the opinion that the applicant is capable of forming a rational judgment as to the disposition of his or her person, and that he or she is also capable of resisting any undue influence. In the third order this rule is strengthened by another, which provides that no voluntary patient shall be admitted to a licensed institution for the care, custody, or treatment of the insane, whose mind is so impaired as to render him or her incapable of forming a rational judgment as to the disposition of his person, or whose will is so weak as to render him or her incapable of resisting undue influence, unless the application for admission is made out in the prescribed form. The commission also announce that no license will be granted to operate or maintain any insane asylum, unless it will be constantly in charge of a well-educated physician, a graduate of a legally incorporated medical college, who must have had at least five years' actual service as a physician in an institution for the care and treatment of the insane. This rule will apply to all future appointments in existing institutions, and the approval of the commission in writing will be required upon the appointment of all assistant physicians, the resident physician bearing the title of physician in charge.

Terchloride of Gold was used twenty years ago by Dr. Hoffman, of New York city, as a cure for alcoholism, and failed.

St. Francis Hospital, Fifth Street, near Avenue B, New York City.—An examination to fill vacancies on the house staff will be held at the hospital on Tuesday, December 29, 1891, at 11 A.M. Applications must be indorsed by a member of the Medical Board and presented to the Secretary, Dr. G. M. Edebohls, 198 Second Avenue.

A Blow at the Dog.—The *Texas Sanitarian* says: "There is one sanitary evil, a source of great danger to human life and happiness, a standing menace to society, which, however, seems never to have occurred, either to our own sanitarians or our law-makers—*the dog*."

Local Remedies for Diphtheria.—Of recently introduced local remedies, two have been highly commended: peroxide of hydrogen and sulpho-calcine. With each of these the writer has saved lives, in cases where the chlorine mixture affected the healthy tissues so strongly as to preclude its use.—*Times and Register*.

Scientific Congresses in Russia.—International congresses of anthropology, prehistoric archæology, and zoology are to be held at Moscow in August, 1892. M. Bogdanow is president of the Organizing Committee, which includes representatives of the principal civilized countries. Thus England is represented by Messrs. Flower, Ray Lankester, and Günther; France by fifty six members, among whom are Prince Roland Bonaparte, MM. Pasteur, Milne-Edwards, de Quatrefages, G. Pouchet, C. Richet, etc.; Germany by Virchow, Weismann, Rosenthal, Leuckart, etc.; the United States by Messrs. Agassiz, Packard, and Riley.

Drugs and Silks.—The department of pharmaceutical preparations, medical supplies, etc., has been for some unknown reason tacked on to the silk department of the Columbian Exposition. It is hoped this important branch of manufacture, with allied matters, such as surgical instruments and appliances, may be given an exhibit by itself under a competent head, and steps in that direction are being made.

Doctors' Wives at Medical Societies.—At the meeting of the Practitioners' Club, of Chicago, October 26th, the ladies present were the prominent feature and the subject of discussion, taking a fair share in the entertainment and post-prandial discourse. From their many assertions it would seem that the life of a doctor's wife is full of special cares and deprivations. Dr. Henry M. Lyman presided.—*Chicago Medical Recorder*.

A Venereal Congress.—A project is now under discussion by different boards of the Paris municipal government to establish an International Congress to consider questions connected with prostitution and the limitation of venereal diseases. It is proposed to hold the congress in Paris in 1893, and to invite medical men, lawyers, sanitary officials, and political economists.

Stites's Surgical Criterion for Cancer.—Dr. John H. Brinton has put into practice at his surgical clinic at the Jefferson Medical College a new test for cancer, proposed by Mr. H. J. Stites, of Edinburgh. The method, as given by Dr. Brinton, in the *Medical News*, October 31st, is that which was furnished him by Dr. John Chiene, of the Royal Infirmary of Edinburgh, and reads as fol-

lows: "1. Excise the mamma. 2. Wash thoroughly in water to remove blood. 3. Place in a five per cent. solution of nitric acid (B. P.) for ten minutes. 4. Wash in cold water for five minutes. By the time these procedures are executed the axilla is cleaned out and the vessels tied. The mamma is now examined; the carcinomatous structure appears a dull white, like the eye of a boiled fish, the healthy tissue translucent. When any such reaction is seen additional tissue should be removed at the corresponding point. In removing the carcinomatous breast, Professor Chiene directs that its relations to the circumferential tissues should be marked by the knife, so that after the test has been applied to the mass excised the situation of any outlying, unremoved diseased areas can be fixed."—*Journal of American Medical Association.*

Society of the Alumni of Charity Hospital.—Officers elected for 1892: *President*, Dr. D. Bryson Delavan; *Vice-President*, Dr. Walter Lester Carr; *Secretary*, Dr. Carter S. Cole; *Treasurer*, Dr. A. T. Muzzy.

A Dentist in Aix-la-Chapelle has been sentenced to nine months' imprisonment for pulling out all a woman's teeth while she was under anæsthesia. She wanted only one pulled.

Reviews and Notices of Books.

DIAGNOSIS AND TREATMENT OF HEMORRHOIDS AND OTHER NON-MALIGNANT RECTAL DISEASES. By W. P. AGNEW, M.D. Second edition. Pp. 148. San Francisco: R. R. Patterson. 1891.

THIS is a practical little book, although it is not without serious faults. The arrangement of topics is not a good one, as the introductory chapter should treat of methods of examination. Nearly one-half of the volume is devoted to the treatment of hemorrhoids by carbolic acid injections, of which the author is an earnest advocate. The non-operative treatment of fissure, ulcer, prolapsus, etc., is described under those headings. We note a useful section on flushing the colon, and another on pruritus ani. While there are undoubtedly many useful hints for the general practitioner, the propriety of throwing all surgical procedures into the background is questionable. The illustrations are fair, though Fig. 18 is a little too strong, even for a medical work. "Dilatation" is spelled "dilitation" throughout the book.

STUDIES IN PATHOLOGICAL ANATOMY. By FRANCIS DELAFIELD, M.D., LL.D., Professor of Pathology and Practical Medicine, College of Physicians and Sugeons. Vol. II., Part 4, Chronic Bright's Disease. Plates LXXXIII.–CXXXIII. September, 1891. New York: William Wood & Co. 1891.

OUR readers are already so familiar with this admirable work that it is unnecessary to add to our former expressions of approval. The present number is unusually interesting, since it deals with a subject of which the author has long made a special study. Professor Delafield's views on renal disease are familiar to generations of students who have listened to his lectures. No man has been more successful in bringing order out of the chaos in which the subject has been involved. Praise of the execution of the drawings is superfluous. With a few exceptions the photo-gravures are beautifully clear and distinct. The accompanying text presents in a lucid though condensed form a *résumé* of the pathology of Bright's disease. The expenditure of so much labor upon a purely scientific work reflects credit not only upon the author, but upon his countrymen, and removes the reproach sometimes cast upon us by foreign scholars—that our profession does not love science for itself alone, but for its practical and financial returns. The superb work, of which this is an important part, will well bear comparison with any previous one here or abroad; in fact it is unique in its way.

INTOXICATIONS PAR LE SUBLIMÉ CORROSIF CHEZ LES FEMMES EN COUCHES. Par le DR. RICHARD SEBILLOTTE. 8vo, pp. 194. Paris: G. Steinheil. 1891.

A VERY timely treatise on mercurial poisoning from the use of bichloride solution in lying-in women. The volume presents an admirable résumé of the subject, and besides much original investigation, the literature has been carefully scanned, not only for the severe and fatal cases, but for the reports of slight poisonous manifestations. Three colored plates illustrate the erythematous skin lesions often found in mercurial poisoning, and the work will interest the dermatologist as well as the obstetrician.

MY WATER CURE, AS TESTED THROUGH MORE THAN THIRTY YEARS. By SEBASTIAN KNEIPP, Parish Priest of Worishofen, Bavaria. Translated from the thirtieth German edition by A. de F. 12mo, pp. 268. Edinburgh and London: William Blackwood & Sons. 1891.

THIS book is interesting in its way as showing how disease may be cured by very simple means and by the enthusiastic advocacy of one idea. The treatment is based on the good effects of water applied in accordance with the water-cure system, modified by unimportant essentials, and being more or less subservient to mental influences. A parish priest, all simplicity and ardor, with the dogmatism of an oracle, insists upon certain details, which are impressive and convincing to the chronic invalid who is in search of something novel and subjectively effective. Hence the cold douche to different parts of the body with a sprinkling pot, the walking barefoot in wet grass and freshly fallen snow, and the hardening of the body to changes of temperature with the necessary auxiliaries of exercise, care in diet and the administration of decoctions of different harmless herbs at stated intervals and in accurately measured dosage. All these means are doubtless effective in their way, but hardly prepare us for an appreciation of the remarkable cures which abound in the book, which savor more of a miraculous than a scientific aspect.

THE EVOLUTION OF LIFE, OR CAUSES OF CHANGE IN ANIMAL FORMS: A STUDY IN BIOLOGY. By HUBBARD WINSLOW MITCHELL, M.D. 12mo, pp. 453. New York and London: G. P. Putnam's Sons. 1891.

THE author gives an entertaining and instructive work in endeavoring to elucidate the problem of the evolution of life from the standpoint of accepted geological development of our planet. Naturally his reasoning is based upon purely anatomical and physiological principles, tracing the original protoplasmic cell through all its evolutions of fish, reptile, marsupial, mammal, ape, and man. He defends the Darwinian theory throughout, and very ingeniously explains the reasons why and how the evolutionary changes took place, in response to developing necessities of condition and environment. The studies to these ends are based upon accepted anatomical and physiological principles, and of themselves, independent of any special theory, are highly instructive, entertaining, and suggestive. Anyone given to these lines of investigation will read the work with rare interest and will be impressed with the wide ranges of study which made the accumulation of the vast array of facts possible, and with the logical skill that has marshalled such facts in the line of legitimate argument. The most curious part of this volume is the final chapter on "Terrestrial and Cosmogonic Prognosis." In it the author declares his belief that man has reached, at least for ages to come, his highest anatomical evo-

lution, that he is virtually in possession of the earth, that all inimical influences to him will eventually be overcome by his prowess, and that the sparsely inhabited regions will be conquered and occupied by him as long as our present planet lasts.

THE PHYSICIANS' READY REFERENCE ACCOUNT-BOOK. Arranged by GIDEON C. SEGUR, M.D., Hartford, Conn.

THIS book has the usual oblong shape of account-books, is substantially bound and very conveniently arranged. At the top of each page are the spaces for the name and address of the patient. The horizontal lines are divided vertically into daily date spaces, as well as spaces for the year and month, together with those for total monthly charges and credits. The credits are made in red and debits in black ink in the space of corresponding date. A page can be used for one or several accounts, although provisions are made for short accounts in the concluding pages. The whole arrangement is exceedingly simple and effective and must recommend itself to every practitioner who must necessarily be his own accountant.

THE COMPARATIVE ANATOMY OF THE DOMESTICATED ANIMALS. By A. CHAVEAU, M.D., LL.D. Second English Edition. Translated and Edited by GEORGE FLEMING, C.B, LL.D, F.R.C.V.S. 8vo, pp. 1084. New York: D. Appleton & Co. 1891.

THE present volume is a translation of the fourth French edition, which was issued one year ago. In it many additions, alterations, and amendments have been made to bring it to the requirements of a standard work. The anatomy of the ass, mule, and rabbit has been incorporated, while the number of illustrations have been increased to more than one hundred and thirty, the page enlarged, and the letter-press adjusted to the requirements of ready reference. This work has long since earned for itself the position of foremost rank in its particular field, and, indeed, stands without a rival in completeness, scientific arrangement, accurate detail, and practical adaptability to the necessities of the veterinary and to the student of general anatomy. It is profusely illustrated and handsomely printed.

A MANUAL OF DISEASES OF THE THROAT AND NOSE, INCLUDING THE PHARYNX, LARYNX, TRACHEA, ŒSOPHAGUS, NOSE, AND NASO-PHARYNX. By MORELL MACKENZIE, M.D. Lond., Consulting Physician to the Hospital for Diseases of the Throat, etc. Two volumes in one. 8vo, pp. 400. New York: W. Wood & Co.

THIS work is so well known to laryngologists and to the general profession, and has been reviewed in one shape or another so often that the latest edition needs but to be announced to be duly appreciated. To such as may not be acquainted with its special merits it may be well to refer to some of the leading features of its make up, and the general scope of its teachings. In a word, the conclusions arrived at may be said to represent an unusually large experience with all the forms of trouble grouped under the particular specialty in which the author, in more ways than one, has made himself famous.

There is a breadth of view of the subject, as well as power of condensation which gives to the book a completeness of range scarcely equalled by any, but certainly not by one of its size. No evidences of hobbyism show themselves by the exclusive adoption of any special form of treatment, but there is evidenced a desire on the part of the author to utilize all the available methods of others and adapt them generously and broadly to a large personal experience. Consequently the constitutional as well as the local methods receive their due share of attention. Especially is this seen in the constitutional diseases, notably syphilis, in which the treatment, both general and special, must necessarily be modified to suit the requirements of special cases. As a disciple of Sigmund of Vienna, the author's views regarding the treatment of specific throat affections are consistent with his methods of practice; but, despite the good results claimed, the doctrines upon which they may be founded will not always go unchallenged.

It is needless to go over in detail the numerous additions and revisions of the present treatise. Suffice it to say that the history, pathology, etiology, and treatment of each of the numerous affections are fully yet succinctly given, and nothing is left to be desired for a comprehensive, compact, and complete book on the subjects named. The forming of two volumes in one, aside from lessening the price of the book to the reader, has the additional advantage of increasing its value as a work of ready but comprehensive reference.

TRANSACTIONS OF THE MICHIGAN STATE MEDICAL SOCIETY FOR THE YEAR 1891. Volume XV. Illustrated Pp. 400. Detroit: O. S. Gulley, Bornman & Co.

THIS book is far and away the handsomest volume of "Transactions" that has been issued this year. An engraving of the President, Dr. Lyman W. Bliss, forms the frontispiece. Illustrations are numerous, one valuable article, by Dr. J. H. Kellog, of Battle Creek, on "The Influence of Dress in Producing the Physical Decadence of American Women," having forty excellent plate figures. The Address on Medicine is by Dr. Heneage Gibbes, of Ann Arbor, on "Phthisis." Dr. H. O. Walker, of Detroit, contributes an interesting paper on the "Progress of Surgery." Sections were held on Practice of Medicine, Surgery and Ophthalmology, and Obstetrics and Gynecology. In each department the papers were of unusual value and by men of prominence. The book deserves a place in the library of every man who aims to keep abreast of the times.

WOOD'S MEDICAL AND SURGICAL MONOGRAPHS for October. Contents: "Treatment of the Diseases of Women," by THURE BRANDT; "The Modern Treatment of the Morphine Habit," by DR. A. FROMME; "A Contribution to the Study of So-called Scarlatina Puerperalis," by PROFESSOR DR. RENVERS; "The Influence of Alcohol upon the Organism of a Child: A Pharmacological-clinical Study," by PROFESSOR R. DEMME; "The Diseases of Development," by DR. J. COMBY. Pp. 258. Profusely illustrated. Price, $1; per year, $10. William Wood & Co., Publishers, 56 and 58 Lafayette Place, New York.

OF the five interesting and valuable papers presented in the October "Monographs," the one that will attract most attention, perhaps, is Brandt's "Treatment of Pelvic Diseases," written by himself. The system, which has become famous, is, in short, made up solely of gymnastics. There is no other medication, and yet displacements, new-growths, and inflammations are all cured by the method. It has been in use by the author for almost fifty years, and he presents cases to show that he has had wonderful results. Only within recent years has the profession given the matter the attention it deserved. The article in hand is a complete exposition of the system, with scores of illustrations, making it of easy practical value to any one who may wish to employ it. The remaining articles in the book are likewise deserving of commendation.

TRANSACTIONS OF THE STATE MEDICAL SOCIETY OF WISCONSIN FOR THE YEAR 1891. Pp. 358. Madison, Wisconsin: Tracy, Gibbs & Co.

THE Committee on Publication of the Wisconsin Society has "done itself proud" in issuing this year's "Transactions." The book is handsomely printed, illustrated with excellent engravings, well bound in cloth, and, above all, contains an immense amount of valuable material. There are thirty-three papers by the leading men of the Wisconsin profession. Empyema, Diphtheria, Syphilitic Lesions of the Eye, La Grippe, Massage, Milk Infection, Tuberculosis of the Bones and Joints, and the Eye Symptoms of Brain Disease, are among the interesting topics discussed.

Society Reports.

MEDICAL AND CHIRURGICAL STATE FACULTY OF MARYLAND.

Semi-annual Meeting, held at Rockville, Md., November 17 and 18, 1891.

PRESIDENT, DR. WILLIAM H. WELCH.

FIRST DAY, TUESDAY, NOVEMBER 17TH.

Address of Welcome.—This was delivered by DR. E. E. STONESTREET, of Rockville, who received the Society in the name of the Montgomery County Medical Society; and was replied to by DR. WILLIAM H. WELCH, of Baltimore.

The Bacillus Coli Communis; the Conditions of Its Invasion in the Human Body, and Its Pathogenic Properties.—This was the title of the President's Address, which was delivered by DR. WILLIAM H. WELCH. He began by saying that it might be considered rather remote from the interests of practical medicine to consider this subject; its study might not help diagnosis or treatment, but it was of the greatest interest, and in this case he thought he had something new to communicate. The invasion into the circulation or system of the bacillus coli communis was always regarded as unimportant, and this organism was supposed to have no pathogenic properties; but now we know it has. It has long been known that a great many different kinds of low forms of life are in the fæces; and it has been thought that it was hopeless to try to classify them. Dr. Woodward, of Washington, has studied them very carefully, and has shown that the great mass of the fæces consists principally of low forms of life. He did not classify the different species. It was not suspected that there were any bacterial flora there. We owe to Escherich, of Gratz, the knowledge of the fact that there are certain species of bacteria which have their habitat in the intestinal canal, and are found comparatively infrequently elsewhere. Of these the most important, because the most commonly found, is the bacillus coli communis. In 1885 he made his first contribution on the subject, his studies being based on the examination of the stools of nursing infants. He found it predominating. It is described as a short rod with rounded ends about ¼ to ½ the diameter of a red blood-corpuscle; it is plump as compared with the tubercle bacillus. It has very little characteristic in its form. It is like many organisms which we already know. The typhoid bacillus resembles it so closely in its form, that one would not be able by the appearance alone to distinguish them, but they can be distinguished by culture media. It is feebly motile according to some, and non-motile according to others. It grows in various culture media, in bouillon, in gelatine, in agar-agar, and in a roll culture is seen very faintly; the colonies are seen very faintly with the naked eye. The method of study is familiar to all bacteriologists. A sterilized platinum needle is passed into the substance to be examined, and then put into the liquefied agar-agar; this is then rolled horizontally on a piece of ice until the medium is deposited in a thin film on the inside of the tube, which is put in the incubator over night, and the result is a number of small colonies which the speaker showed. Their growth and reaction may be also noticed in milk. Add litmus to the milk, and then inoculate it with pure cultures of the typhoid bacillus and of the bacillus coli communis, and in the former case the milk remains fluid, and in the latter case the milk is coagulated. It is important to know whether this organism, the bacillus coli communis, has pathogenic properties or not. The answer to this is equally important whether positive or negative. In typhoid fever the trouble is we cannot find an animal susceptible to the typhoid bacillus. When an organism enters the body it causes disease, either by infection or by intoxication. Infection is when the organism multiplies in the body, and intoxication is when the organism emits a poison. The bacillus coli communis causes an infection, not an intoxication. In experiments on rabbits, Dr. Welch injected a pure culture of this organism, and the animals emaciated and died in two or three months. At the autopsy it looked as if death was caused by the organism getting into the gall-bladder. The effect seems to be according to the amount inoculated. He came across this organism in a case of pancreatitis. The etiology of this disease, which Dr. Reginald Fitz, of Boston, has so thoroughly written up, is obscure. Cultures were made from this case. It is not a post-mortem organism. When found in the body it is not a sign that it got there after death. At the Johns Hopkins Hospital the autopsies are made soon after death, and thus the danger of post-mortem organisms is reduced to a minimum. In this case the abdomen was opened and a large flat knife, which had been heated in the flame, was laid on the pancreas, thus destroying all organisms that might be on the surface of that organ; then the sterilized platinum needle was plunged into the substance of that organ, and the œzes brought up a little speck of substance which was put into the culture medium. In the case just mentioned, in which the bacillus coli communis was found in pure culture, there was a diphtheritic looking condition of the intestinal mucous membrane. The organism probably made its way through the diseased intestinal mucous membrane and thus got to other organs. He had found it in no less than thirty-three of the two hundred and fifty autopsies which he had performed at the Johns Hopkins Hospital. All of these had a lesion of the intestinal canal. All had dysentery and a diphtheritic-looking condition of the large or small intestine. There were hemorrhages, ecchymoses, and typhoid ulcerations. The question to be asked is: "Is the invasion of this bacillus of practical interest or not? does it do harm?" There is no evidence always that it does, but in some cases it seems to. He had had some cases at the hospital of dysentery caused by the amœba coli. In these cases, which were usually fatal, he had found with considerable constancy the bacillus coli communis. It may be a factor of some importance. There are cases in which the organisms do injury. He had seen several cases of peritonitis of late; this is a most common cause of perforation. These were usually without perforation. The peritoneal fluid was examined, and it was found to be a pure culture of the bacillus coli communis. In another case there was a cancer of the rectum and an abscess, and the pus from this abscess contained almost a pure culture of the organism. He had seen six cases in which this organism had caused an infection of the laparotomy wound. In a number of these cases there had been numerous adhesions. It caused fever and prevented union by first intention. It also does harm in the secondary bronchopneumonias. It is caused by some lesion in the intestinal tract. Fränkel found this a common cause of peritonitis in one-third of his cases. The streptococcus and staphylococcus were also found.

DR. ERNEST BLACK, of London, thought that more and more light was needed on the precise nature of the products of decomposition formed by the bacilli. He asked Dr. Welch if a pure culture of the bacillus coli communis could be absorbed by the healthy mucous membrane.

DR. WELCH replied that this organism is not known to produce injurious chemical substances. Lactic and acetic acids are produced in the fermentation of milk. We have very little work on the subject, but he does not believe absorption takes place.

The Rest Cure and Cases to which It is Applicable.—DR. GEORGE J. PRESTON read a paper on the above subject. He referred to Hodge's experiments and the change produced in nerve-cells by stimulation, and the restoration of these cells by rest. Hence the rest cure has a physiological basis. The natural relief of pain is rest. The necessary things in a rest cure are isolation, rest, forced

feeding, and artificial exercise. Isolation is very important. No one but the doctor and nurse should see the patient. The patient should be removed from home and the above rules followed, with attention to the diet, baths, and the use of electricity when indicated. It is not easy to say to what class of cases this treatment should be applied. There is a distinctive and easily recognized class of cases to which this treatment applies.

DR. T. A. ASHBY, of Baltimore, thought the rest treatment was very important. He referred to a number of cases in his own practice. The ovaries are removed too often. He agreed with Dr. Preston when he said that the surgeon might just as well remove the testicles for seminal emissions as remove the ovaries of a neurasthenic.

DR. ROBERT T. WILSON, of Baltimore, said he had had the same kind of experience in his own practice, and related a case. He seconded all that he said.

DR. ROGER BROOKE, of Oakdale, was very glad to hear the paper, and thought such work was productive of much good.

DR. BLACK thought that forced feeding was of the greatest importance. There were many cases in which the patient did not begin to improve until forced feeding was used. He especially recommended peptonized enemata.

DR. WELCH said that the work of Hodge was decisive. The prolonged irritation of a nerve causes a change in its cells. Prolonged functional disturbance may cause an organic disease. Thus cases of prolonged neuralgia from a tooth may cause an organic disease of that nerve, and the blood-vessels would thicken in their walls. Dr. Putnam, of Boston, has shown that reflex irritation will cause organic disease of the nerve.

Typhoid Fever.—DR. EDWARD ANDERSON, of Rockville, read this paper. Every case came from the same cause, whether long or short, mild or severe. If short, it is usually called malaria or gastric fever. This is usually a mistaken diagnosis. He would call it headache fever, for headache is always present, while all the usually described symptoms may be absent. It is a scourge everywhere, but it is particularly prevalent in Rockville. He attributed this not so much to the drinking-water as to the clay soil, which becomes dry and is carried about as dust. This soil is saturated with the typhoid poison. He quoted several cases.

DR. ASHBY thought it was usually caused by drinking-water. It was strange we did not have this disease more often than we do.

DR. PRESTON said one proof of the fact that water usually caused typhoid fever was that it was much less common in the cities than in the country. Milk may also be a cause. He had noticed that the disease would be mild one year and severe another. He found that the cases that came late to treatment were the ones that were fatal. He preferred egg-white to milk.

DR. HENRY U. ONDERDONK, of College of St. James, said that he had examined a large number of specimens of water for physicians of that region, and he had found chlorides, nitrites, nitrates, and thought that such water must contain the typhoid bacillus.

DR. J. MCP. SCOTT, of Hagerstown, said that correction of defective drainage would stop the disease, even when the drinking-water seemed at fault.

DR. WELCH thought it was important to study the cases which differed from the usual forms. Much harm had been done by the text-books in describing this disease. There are cases without the usually noted symptoms, and cases with them. The cases of constipated typhoid fever are by no means the most favorable. Some cases assume the disguise of Bright's disease. The continued fever seems to be the most common symptom to all types. Harm has been done by setting up the type of typho-malarial. The two diseases are combined, but not often. It is used to cover up the ignorance of the physician. We have means of recognizing malaria by examining the blood. If the malarial organisms are present we have malaria; if they are absent, then we have no malaria. Typhoid fever is a disease which the physician should have in his mind when he is called to attend a case of continued fever. He related a case of walking typhoid fever which went to a physician for some supposed trouble, and one day dropped dead on the street. It is a tricky disease, and may assume all sorts of disguises. It is a novel thing to hear the ground hypothesis advocated in this country at the present day. The drinking-water is so generally considered the cause, especially in the opinion of Americans and English, that the ground hypothesis is in the background. Pettenkofer, of Munich, who is a thorough hygienist in its strictest sense, is the leader of the ground hypothesis, while the bacteriological school of Koch is a strong adherent to the drinking-water theory. Typhoid fever can originate in various ways. It generally comes from the drinking-water, but it may not be impossible for it to develop in the way Dr. Anderson has said. Uffelmann found that it lived in the earth a year. The typhoid bacillus does not form spores, but it is very resistant. It may be taken in with the dust. The ground hypothesis cannot be denied entirely. Uncooked food may possibly cause it. Impure water may infect without being drunk; it may contaminate the vessels in washing them. It is well known that milk will cause the disease. The bacillus does not get in from sewer-gas, but families returning to a house that has been closed for a long time may get the disease, from that fact that the water in the drains and water-closet traps has evaporated, and any dried matter in these pipes containing among other things the typhoid bacillus, may be wafted into the house by backward currents of air and cause the disease. In such cases the places just left, usually a summer resort, is blamed. In Munich the introduction of good water had no effect, but improvement of the drainage caused the disease to disappear at once. In Hamburg the reverse was true. The typhoid bacillus is not choice in what it eats. It will grow on almost anything. The fact that this bacillus grows readily in milk is no reason why we should deprive our patients of milk. As the bacillus will grow on almost anything, we should have to starve our patients in order to protect them. Besides, it is not so much keeping the organism from getting into the body as to keep the body strong enough to throw off attacks of the bacillus. There is no substance which contains so much nutritive matter as milk, and nothing is better than it in typhoid fever.

SECOND DAY, WEDNESDAY, NOVEMBER 18TH.

Appendicitis in the Female, with Report of Two Cases.—DR. T. A. ASHBY, of Baltimore, read this paper. He thought that appendicitis occurred frequently in the female when it was not recognized, because the pus escaped by the vagina or in other ways. He related several cases.

DR. WELCH said that he had had some little experience in this disease. The subject is interesting and little investigated. The reason it is supposed to be so much more common in the male than in the female, is because statistics are not properly collected. This is difficult. There are more males than females in hospital. Like cancer of the stomach, it is no more common in males than in females. There are some causative differences in the two sexes. One case which he had seen at the hospital was one of extra-uterine pregnancy. It was tubal. The diagnosis had not been made before she entered the hospital. The third week the sac ruptured into the peritoneal cavity, and there was a profuse hemorrhage. The patient was better in a week. The diagnosis was made by withdrawing with a sterilized needle a little fluid from the peritoneal cavity, and this fluid, which was blood, was found to be a pure culture of the bacillus coli communis. This showed a perforation of the intestinal canal, for how else could this organism get in? The diagnosis was confirmed subsequently. This was the only

thing about the case that led to a suspicion of appendicitis. An operation was decided on and laparotomy was performed. As soon as the peritoneal cavity was opened the blood spurted out seven inches high and two inches thick. The patient died almost at once.

The autopsy showed an appendicitis and diffuse peritonitis. There had been a tubal pregnancy on the right side, which had ruptured. The diagnosis was made with the microscope. The appendix was adherent to the sac on the right side, and this is probable. It is probable that the appendix was ruptured in rupture of the sac. This is interesting, the diagnosis resting on the bacteriological examination, and the sudden death. The patient had shortly before had a hemorrhage into the peritoneal cavity, the tension was excessive which compressed all the viscera and the blood-vessels. This is different from the collection of an ascitic fluid, because that is a gradual accumulation and the vessels have time to accustom themselves to the change. The volume of blood in this case was diminished by the hemorrhage. The abdominal vessels can contain all the blood of the body, and in this operation the pressure being suddenly let up, the blood was drawn from all other parts of the body and the circulation could not be kept up. In these cases a salt solution injected into the blood-vessels does as much good as blood, and is not so dangerous. This patient died of "hemorrhage into her own vessels."

A still more interesting case was that of a negress, aged twenty-one, married three years; had had two miscarriages, and developed during the last six months great pain and weakness in the back and side, and leucorrhœa. She was not incapacitated for work. She came to the hospital. Examination showed that the cervix was low down and enlarged, os patulous. On the left side was a fluctuating mass as large as a lemon; on the right there was nothing. Diagnosis, pyosalpinx of the left side. Laparotomy was performed, and left ovary and tube and appendix removed. On the left side there was a pyosalpinx. The fimbriated extremity was obliterated, ovary not involved. On the right there was no pyosalpinx, but evidences of disease. The contents of the right Fallopian tube was muco-purulent. The vermiform appendix was adherent to the right tube. A culture made from the pus in the left tube was negative and sterile. This is the usual result, and it is surprising. These cases are gonorrhœal, and later on the organism disappears; still it does not grow in the usual culture media, so that when we find such a case where there is no growth, we consider it gonorrhœal. He made cultures from the right Fallopian tube and found small cultures; they were the streptococcus pyogenes aureus, the most virulent of the pus-producing organisms. He thought this was a case where the inflamed vermiform appendix had set up by adhesion a salpingitis. This is another cause added to the list of causes of this trouble. The finding of the streptococcus makes the prognosis worse than if other forms were found. It is the organism of puerperal fever and septicæmia.

This patient was isolated and a drainage-tube was not inserted, as he considered it as a source of danger. The temperature went up to 104° F., and she died soon after the operation. The autopsy showed a duodenal ulcer, an unexpected complication. There may be a co-relation between the ulcer and this case; he had seen three others like it, but could not trace the connection.

Laparotomy for Removal of a Purulent Tumor of the Right Ovary.—This was read by Dr. Robert T. Wilson, of Baltimore. This was not a suppurating cystoma of the ovary, but an abscess of the ovary *per se*. He operated with good results, and laid great stress on the use of the drainage-tube or iodoform tents to facilitate the discharge of the pus, etc.

Dr. Ashby said this was an interesting case. They are not always easy to diagnose. He had had several, but in none was the tumor as large as an infant's head, as narrated by Dr. Wilson.

Dr. Welch had seen several cases of abscess of the ovary, and agrees with Dr. Wilson that it is very rare. In pelvic peritonitis the organisms do not have to penetrate, but it is difficult for the organisms to get into the ovary. Its tunic is so thick, and the different tissues oppose the invasion of bacteria, and the stroma of the ovary is not prone to suppurate. He mentioned a case of ovarian abscess from abscess of the rectum, and recalled a case of genuine abscess of the ovary. They are not so very uncommon, nor are they very common. They are not easy to recognize when the tumor gets as large as Dr. Wilson's case. He thought the drainage-tube was called for in this case, but the chances of union by first intention were opposed by the use of the drainage-tube.

Occupation and Disease; with Special Reference to the Connection between the Inhalation of Dust and Pulmonary Disease.—Dr. William B. Canfield read a paper on this subject. The substance of this paper was to show the dangers of dust in mills, mines, factories, and in other closed places where dust is present in excessive amount. This dust is dangerous because of its amount, its poisonous nature, or because it may make a way in the lungs for the invasion of the bacillus tuberculosis and other organisms. He suggested proper ventilation and means to carry off this dust.

Dr. Preston had seen several cases of lead-poisoning among a number of stone-cutters employed in the same shop. He found it due to a certain polishing powder which the men used, and which they inhaled in sufficient quantity to get its constitutional effects.

Dr. Welch referred to a case of anthracosis in which he had found dust not only in the lungs, but also in the liver and other organs. He thought it was often there, but was overlooked.

A Case Illustrating the Diagnosis of Extra-uterine Pregnancy, and the Difficulty of Producing Abortion.—Dr. J. E. Michael, of Baltimore, related a case of a woman, aged twenty-two, unmarried, who had been treated for suppression of menses, first by drugs, later, locally, in view of a muco-purulent discharge from the cervix. Local treatment in applications to the uterine cavity of Churchill's tincture. This was done fifteen times, the applicator having been passed four and a half inches. Dr. Michael diagnosed pregnancy in sharply anteflexed uterus. Natural labor proved the correctness of the diagnosis.

Dr. Stone, of Washington, in discussing extra uterine pregnancy, related several cases and asked where pregnancy occurred. A rupture through the tube into the broad ligament was called an interstitial pregnancy.

Dr. Welch related a case of a couple who had been married fifteen years without children, when the wife became pregnant. Everything seemed to be going on well, when there was suddenly pain, collapse, and symptoms of internal hemorrhage. As she was the wife of a well-known physician, many were called in. She passed some material by the vagina. Some thought it was a case of miscarriage, while others (Thomas and Lusk) said it was extra-uterine pregnancy. Dr. Welch examined the matter with the microscope and it showed decidual matter, but no chorionic villi. He decided it was a case of extra-uterine pregnancy.

Dr. Stone asked if it was usual for hemorrhage to occur at the fourth month outside of the sac, after the fœtus is two weeks or a month old; he did not know what caused a hemorrhage and from what artery it came. There was no rupture of the sac.

Dr. Welch said a rupture of the tubal sac is common. He has never seen such a case where hemorrhage occurred and there was no rupture. Not many years ago these cases would have been simply called hæmatocele. Probably most cases of so-called hæmatocele are really extra-uterine pregnancy.

Notes on the Use of Codeine.—This was read by Dr. A. K. Bond, of Baltimore. He advocated its use in gastric irritation, in the sleeplessness of old age, and in

phthisis. The advantages are, it does not have to be increased and there is no danger of forming the habit as with morphia.

This paper was discussed by Drs. Canfield and Stone, of Washington; Anderson, of Rockville; and Wilson, of Baltimore.

A Case of Elephantiasis of the Scrotum.—Dr. Randolph Winslow related the case with operation and successful results. It was discussed by Dr. Welch.

Early Diagnosis and Operation in Osteo-sarcoma of the Lower Bones.—Dr. Charles E. Stone, of Rockville, read this paper and related three cases well illustrating his subject. It was discussed by Drs. J. W. Chambers, of Baltimore; E. E. Stonestreet, of Rockville; and Welch, of Baltimore.

Report of Fifty Consecutive Operations for Cataract.—This was a paper by Dr. R. L. Randolph, of Baltimore. It was discussed by Drs. Muncaster and Belt, of Washington, and Harlan, of Baltimore.

Correspondence.

EN ROUTE TO THE RIVIERA.

(From our Special Commissioner.)

OBJECTS OF THE "RECORD" HEALTH TOUR—NEW YORK TO LONDON IN ONE WEEK—CORDIAL RECEPTION IN LONDON—MR. ERNEST HART'S COURTESIES—SIR DOUGLAS GALTON AND SIR EDWARD WATKIN, THE SANITARY EXPERTS—INTERVIEW WITH SIR MORELL MACKENZIE—BRIGHTON DURING THE HEIGHT OF THE SEASON—PARIS—MR. BLAINE'S LETTER—CONFERENCE WITH MR. WHITELAW REID—AMERICAN PHYSICIANS IN PARIS—DR. WARREN BEY—DR. PRENDERGAST, LORD LYTTON'S PHYSICIAN—AMUSING EXPERIENCE WITH A RECENT GRADUATE—THE EDITOR OF THE PARIS MEDICAL JOURNAL—TALK WITH CHARCOT.

Paris, November, 1891.

In these days of flying trips across continents, of globe-trotting excursions to all accessible parts of our little planet, a mere trip from New York to the Riviera should scarcely be made memorable by having thrust upon it the dignity of printer's ink. Nevertheless your correspondent's special mission may be entitled to some consideration from that large class of physicians whose patients annually consult them in regard to the most suitable climate that will afford them a pleasant escape from the rigors of a northern winter. The South of France, the Riviera, Florence, and other Italian cities have for many years been favorite resting-places for those in search of winter sunshine and winter out-door exercise. It is true the health-resorts along the Riviera have been literally written to death. Yet, in spite of this melancholy fact, or, perhaps, rather on account of it, the actual sanitary condition of the most popular Mediterranean stations is almost a terra icognita to the American medical profession. The ordinary guide-book information is certainly incomplete and unreliable, and the testimony of local physicians is apt to be tinged with a pardonable local coloring of decided roseate complexion.

It cannot be denied that many of our best citizens are still anxious to visit the Riviera, are quite eager to see Florence, Rome, Naples, Venice, and other interesting towns. But it must also be admitted that many a sad experience, many an unexpected personal bereavement there has lately created a widespread feeling of distrust in regard to the healthfulness of the places named. Certain it is that for the past two years influenza has spared neither native nor foreigner, neither old nor young in the Riviera, that typhoid fever was virulently epidemic in Florence so recently as last winter, that Roman fever is more than a mere myth, and that Naples and Venice have an uncomfortably high death rate. Under these circumstances many American physicians have very properly preferred to send their patients and convalescents to Florida and Southern California, rather than permit them to hazard an ocean trip, and incur the well-known discomforts of continental travelling, in search of problematical benefits to be derived from a sojourn in Southern Europe. Of course, the trip can now be made from New York by steamer direct to Genoa. But this does not dispose of the main question, viz., the actual present sanitary condition of the resorts still largely frequented by American tourists and invalids.

Under these circumstances, with traditional Record enterprise, a searching tour of inspection is now to be undertaken, and an entirely independent sanitary examination of the most vigorous kind will be made. The results of this inquiry, which is to occupy the entire coming winter, are to be submitted to the medical profession through the columns of the Record.

Ocean journeys are now but slightly dreaded by the public; and there is good ground for this universal confidence. For will not a luxurious floating hotel take you to Southampton, despite all stormy weather, in less than a week? The twin-screw steamers of to-day are truly named ocean greyhounds. Your correspondent, for example, left New York on the Fürst Bismarck on Thursday, November 5th, and on the following Thursday he enjoyed a very comfortable dinner at the Savoy, in London. To still further reduce the time of an Atlantic crossing seems hardly called for, if Father Chronos is not to be for evermore relegated to innocuous desuetude.

London is still the great metropolis of the world, and unless Chicago will embrace in its octopusean tentacles an additional prairie or two the New World will have to wait a little longer before a city containing a five million population will justify such ponderous and pleonastic directories as they bewilder you with in the capital of the land of fogs.

Having been brought up to entertain dreadful suspicions of British "aloofishness," your correspondent, like numerous Americans before him, was agreeably surprised at the cordial reception extended him everywhere in London.

Mr. Ernest Hart, the accomplished editor of the *British Medical Journal*, whose facile pen has, among other things, indited many an entertaining and instructive narrative of professional travel, was most courteous and painstaking in his endeavors to facilitate the work of your correspondent. It is through Mr. Hart's personal letters that your correspondent was able to communicate with Sir Douglas Galton, the eminent sanitary expert, and with Sir Edward Watkin, who has a most intimate knowledge of recent sanitary improvements in the health resorts along the Riviera.

Sir Morell Mackenzie also greeted your representative most cordially, and in a pleasant chat gave him valuable information concerning Riviera matters. Sir Morell's mantelshelf was a sight not before seen in any physician's office, at least by my republican eyes, for it held photographs with autograph dedicatory remarks of almost the entire royal family of England. There were also interesting autograph letters from the Queen to her "Theurer Fritz," written in very good German, and saying nice things about "Vicky." Sir Morell, like other eminent London physicians, has three door-bells: 1, For visitors; 2, for patients; 3, for servants. I am not sure that the Hibernian despots presiding over our domestic arrangements in New York would permit the introduction of such an innovation. And then, again, perhaps it would hardly be necessary, as so few of our medical houses are English basements and so many of our visitors are only patients. But three big bells on your door-front certainly seems rather awe-inspiring. I prefer them to our night-bell and speaking-tube inconveniences. Those speaking-tubes are really quite useless, except in so far as they extend a permanent invitation to practical jokers to rouse us from our deepest slumbers and shout up hasty summonses to illusory patients. As prolific breeders of strong

language in the dead of night, speaking-tubes have no equal among American medical institutions.

The run from smoky London to fashionable Brighton is accomplished in less than one hour and a half, by special train of vestibuled Pullman cars. A homelike sensation of ease and comfort steals over you on board these cars. It is to be hoped that British conservatism, which at present still maintains such antiquated travelling methods, will soon give way to the rational American system of running trains properly heated, properly ventilated, properly lighted, and properly provided with other essential conveniences. The British and continental systems are, with the exception of a few "trains de luxe," barbarous in the extreme and positively dangerous in the case of feeble invalids.

Brighton, the "Queen of Watering Places," is well worth a visit during the height of the season. This lasts from about the middle of October until New Year's. There is certainly a balmy, invigorating quality to the air there that may largely account for its great popularity with "all London." Brighton is clean, decent, and healthful, but it ought to be at its best in the summer months, at the very time when all London fights shy of its charms. I saw only one really fine old building in the place, and that was, according to my communicative cabby, the "'ome for horphans and 'alf horphans." I am glad the poor little ones are so pleasantly domiciled. They deserve it, if everybody calls them such dreadful names. A few fashionable physicians are said to earn as much as $30,000 per annum, but a great many unfashionable ones are believed to earn less than their living expenses at Brighton.

From Brighton back to London, and thence, via Dover and Calais, by fast, cold, dreary train to Paris, is an affair of only eleven hours, including time wasted in a most perfunctory kind of non-McKinley baggage examination. In Paris I found Mr. Blaine's letter of endorsement of my mission, addressed to all the Diplomatic and Consular Officers of the United States, and cordially bespeaking for your correspondent such official courtesies as they may properly extend during his sojourn abroad. Department letters of this character are apt to oil the wheels of official action, which have been known to run in a slow and jerky fashion when left to their own devices.

Shortly after my arrival in Paris I had a conference with Mr. Whitelaw Reid, and, after formally presenting my credentials, requested him to ask, in his official capacity, permission from the French Government to practise my profession this winter in the French Riviera among my own countrymen. In case of failure on the part of the Government to grant this permission (which, according to Mr. Reid's previous experience, was a foregone conclusion) I further inquired what privileges or exemptions could be granted in the matter of passing the regular French State examinations prescribed by the new Law. By going through the mill, the RECORD representative may, perhaps, render the profession at home a service. A test case might possibly be useful in obtaining reciprocal legislation for Frenchmen desiring to temporarily practise in the United States.

The American colony of Paris must be more French than American by this time, if one may judge from the difficulties encountered by some of our physicians in obtaining lucrative practices. The Nestor of American medicine here is the ever-genial, highly-polished, and courteous Dr. Warren-Bey. Paris is not, apparently, a very promising field for American newcomers, and any malcontents had better malcontent themselves by remaining at home, than by seeking fresh fields and pastures new in Paris. However, Dr. Warren and several other well-informed American physicians assured me that the French were most tolerant and quite liberal in the interpretation of their new Medical Law, so long as an American did not intend to permanently reside in Paris. Dr. Prendergast, the late Lord Lytton's physician, and surgeon to the British Embassy, gave me precisely the same information with regard to Englishmen wishing to practice in France. True, the letter of the law does not really permit it, but the law winks here, as elsewhere, when winking seems called for.

In amusing contrast with these straightforward statements, I ought to mention the information vouchsafed me by a recent lofty graduate of some French school. This American gentleman, who was formerly at a well-known military academy in the United States, intimated that he really controlled medical legislation in Paris, and asserted that it was extremely difficult, if not impossible, for an American citizen to obtain any kind of recognition from France. Moreover, he himself would take pleasure in lending his potent aid to still further increase these difficulties. He told various other diverting tales to even more forcibly illustrate the well-bred and obliging nature of his disposition toward his own countrymen. The youthful aspirant for fame is always the same, and he is always amusing, whether you meet him in Paris or in New York, in Oshkosh or in Timbuctoo. From the editor of the Paris *Medical Journal*, who, by the way, speaks English as well as an American, I learned that the RECORD is held in high esteem by English-speaking French physicians.

Our poly-pharmaceutical countryman, Dr. Brown-Séquard, had already gone southward, so that I failed to meet him. I was naturally anxious to see his elixir and, if necessary, even to raise it one. To-day I saw "by appointment" the great Charcot, with whom mere patients are at times permitted to have "audiences." I am afraid there is an "open sesame" attached to RECORD credentials that may easily lead to magocephalism of a dangerous kind. At any rate, Dr. Charcot received me most cordially, wrote me letters to the Dean of the Faculty and other important persons, entertained me for a long time on interesting politico-medical topics, to which I may have occasion to refer later on, spoke about the contrast between the profession of to-day and of times gone by, and with true French *politesse* offered his services in any way in which I should see fit to command them. And all this while his magnificently appointed waiting-room was crowded with patients, anxiously waiting their turn to consult the great French savant.

My next will be my first Riviera instalment, and will be much more impersonal than it was possible to make the present introductory note.

ANOTHER CASE OF LONG-RETAINED PLACENTA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Reading the report of Dr. Lamadrid's case of retained placenta, in the MEDICAL RECORD of November 7, 1891, brings to my mind one of interest occurring in the practice of Dr. Groat, in Fremont, O., in 1864, and I think never reported except before the local society. In this case the placenta was retained fifty-one days, so far as I know, the longest period on record. The patient was a robust Scotch woman, mother of four children, seven months advanced in pregnancy. Excessive physical exercise, together with great fright in time of a sudden flood, caused the death of the fœtus. This was suspected from complete cessation of motion, which had before been very constant.

With too little warning to summon medical assistance, a well developed child of seven months was delivered. The placenta not following after waiting several hours, Dr. Groat was called. He found the uterus contracted upon the placenta quite firmly; the cord short and friable, breaking off near the os.

Ordinary methods to secure expulsion proving unavailing, the doctor concluded not to use force, but await further development, observing the patient closely meanwhile.

Convalescence progressed favorably, the patient was

allowed to leave her bed, then her room, and finally to pursue her usual duties. During the night of the fifty-first day she was awakened with a sensation of straining, and obeying the desire, the placenta was expelled without pain or hemorrhage. It seemed to be entirely natural except that it showed the contracted form of the uterus. After a few days of rest in bed she again attended to her ordinary employment.

FANNIE A. GROAT, M.D.

511 SOUTH NINTH STREET, ST. JOSEPH, MO.,
November 23, 1891.

THE MEDICAL PRACTICE LAW IN MINNESOTA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I noticed recently in your columns comments upon the medical legislation of Connecticut, and I wish to call your attention to the medical laws of one, at least, of our States in the wild West which bears a marked contrast.

Wishing to appear before the State Board of Minnesota for examination, I wrote to the Secretary for particular information, stating that I had degrees from Rush Medical College, '89, and from the College of Physicians and Surgeons of New York, '91, and that I could show evidence of a hospital experience during the time intervening. I received the enclosed reply:

"DEAR DOCTOR: Yours of the 4th received. The Minnesota law requires *three* courses of *at least* six months each. This allows us no discretion. It is impossible for us to recognize any other. Diplomas are not recognized, and, under our law, you are not eligible for examination. I enclose a copy of the law for your information.

"Yours truly,

"ARTHUR SWEENEY, M.D.

"STATE BOARD OF MEDICAL EXAMINERS,
"SECRETARY'S OFFICE, ST. PAUL, MINN., July 17, 1891."

During a personal interview soon afterward with the Secretary of above Board I was told that because the terms of one of the colleges lacked a few days of the required time, I could not appear for examination, and my only recourse was to take two more terms at some reputable college of at least six months each. In this State diplomas from two of the leading colleges of the country will not render one eligible to appear before the State Board of Examiners for examination. The headquarters of this Board is St. Paul. Comments are unnecessary.

Very respectfully,

CARL M. BEEBE, M.D.

LA CROSSE, WIS., November 19, 1891.

TREATMENT OF A BAD COLD.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I have just read in the MEDICAL RECORD of November 28th the excellent article on this subject by John Aulde, M.D. The use of gelsemium in bad colds and la grippe cannot be too highly praised. In my own practice I have used it, under certain conditions, for twenty-five years, and during that time I have found it nearly a specific in bad colds and influenza. Two years ago, when la grippe visited this city and nearly "filled our graveyards," myself and others who prescribed this remedy did not lose a single case. During the months of February and March, 1889, I had daily under treatment seventy-five cases, and very bad ones the most of them were. When called early in the attack, gelsemium, without a single exception, averted pneumonia, pleuro-pneumonia, and pleurisy. A leading pharmacist said to me one day, in a jocular manner, "In la grippe gelsemium is death to the undertaker's business, while quinine is death to the patients." Of the seventy-five cases per day three patients had, before my seeing them, contracted pneumonia; I continued the remedy and they too recovered. Ten drops in four ounces of water, a teaspoonful to be given every hour during the day, was my line of practice. I never use the ordinary fluid extract. I have no faith in anything but the tincture made from the green root.

LANCELOT YOUNGHUSBAND, M.D.

DETROIT, MICH.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I have just finished reading the able article, under date of November 28th, on "The Treatment of a Bad Cold." I have found that most severe colds may be broken at the outset by a free use of hot ginger tea, taken just before retiring. One heaping teaspoonful of ginger steeped in one pint of boiling water, a large glass of the clear tea poured off, and sweetened, has proved itself to be an efficacious as well as a simple remedy.

MEDICUS.

NEW YORK, December 2, 1891.

OKLAHOMA HAS BEGUN WELL.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: We would like to have it understood that Oklahoma is not a rendezvous for quacks and non-graduates in medicine to flourish in. War is being made on such all over the Territory. Five indictments have been made by the Grand Jury in this county this week, and one travelling charlatan is now lying in jail in this city, not having money enough to pay his fine.

Our medical law requires that a physician shall have a diploma from a reputable medical college, or shall pass a satisfactory examination before the Territorial Board of Medical Examiners.

Very respectfully yours,

J. A. OVERSTREET, M.D.,
Territorial Superintendent of Public Health.

KINGFISHER, OKLA. TER., November 23, 1891.

THE PHYSIOLOGICAL RELATION OF ALCOHOL TO FOOD.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I read with much interest the article in the MEDICAL RECORD, of October 17th, entitled "The Physiological Relation of Alcohol to Food, etc.," and I have been waiting to see some reply as criticism upon it, either as an editorial or as a contributed article. As no such reply has appeared, I venture to raise the question whether a doctrine so revolutionary in its practical bearings is to be accepted without controversy, or to be quietly ignored.

The author speaks as one with authority, and not as the scribes. For example, he teaches that an infant should be "fed according to the laws of nature, and not by the rules of the say sos," but gives no authority but his own "say so," for what he claims the laws of nature require. He does not in any way vindicate the authority of the tables upon which many of his arguments are based, or explain how they were prepared. One of them, Table VII., is at least remarkable. According to it, a person engaged in active labor requires thirty-five per cent. more of albuminous than of carbonaceous food. I would like to see a bill of fare prepared by the author for a laboring man's breakfast, dinner, and supper that would secure such a proportion of the two classes of food. He also teaches that the imperfect oxidation of albuminoids, to which certain diseases are due, is the result of too large a proportion of hydrocarbons in the food, which is diametrically opposed to the teaching of Fothergill and other eminent teachers. Is this new doctrine to be at once accepted as correct, or is there yet something to be said in favor of a diet in which the cereals and vegetables constitute their usual proportions, and in favor of withholding meat and most solid foods from babies under a year of age?

GEORGE H. FELTON, M.D.

NEW ORLEANS, LA., November 11, 1891.

A NEW METHOD OF REMOVING A RETAINED PLACENTA.

To the Editor of the Medical Record.

Sir: Time would fail if I were to atempt to tell of the various means, external and internal, that I have seen used in the thirty years of my medical life to remove a retained placenta. I have seen old women of our own race use teas of cobwebs, soot from a chimney, cotton burned on an axe, as well as such external remedies as a rabbit-skin laid over the uterus, and skunk and rattlesnake oil rubbed on the abdomen to induce the longed-for pains. The long towel drawn tightly around the body was known in Southern Illinois and Kentucky by generations who never heard of Credé. The Hindoos in some places give ewe lamb's urine as well as the urine of a virgin, and they also burn dried cow-dung and red pepper, and cause the woman to squat naked over the smoke. The Chinese often use a broth made of a dried placenta, and the Indians of our country use the broth of the skunk and some other animals, as well as skins of these animals laid over the womb.

I was called some time ago to see a young American woman, who lived in a Mexican neighborhood where there were no other Americans. The young man, her husband, said the old women were very kind, and when the after-birth failed to come, one of them asked for a pack of cards, and from these she drew the four aces, having carefully shuffled them. She burned the cards on a clean iron shovel and mixing the ashes with water, urged the young woman to drink it. She thought it was better to yield than to refuse, so swallowed a part of the mixture, managing to spill the most of it. She and her husband, however, kept up their efforts at bearing down and squeezing, and the placenta finally came away, but the old woman firmly believes it was the aces did the business. I asked the old woman what she would have used had it been a girl, and she said the four queens would have been the proper remedy. This was a new idea to me, and I thought the experience might interest the readers of the Medical Record.

H. R. Palmer, M.D.

Trinidad, Col., November 19, 1891.

A MATERNAL IMPRESSION THAT TAKES THE PRIZE.

To the Editor of the Medical Record.

Sir: Occasionally the past twenty years your journal has contained articles relating to maternal impressions. There seems to be times that physicians like to write on a particular subject, reminding one of a Methodist class-meeting, where every one is invited to free his mind.

That children are born with certain marks referable to some occult cause I do not doubt, for one must believe the evidences of his own senses, even if he cannot explain the phenomena from a scientific stand-point.

The particular incident I have in mind now occurred twenty years ago, and I relate it only because of its ludicrous nature. When Mrs. S——, who lived in one of the towns of this State, was about three months pregnant she had occasion to go to the water-closet in her yard. The closet was so situated that anyone who chose could enter. As it happened when she opened the door a man arose from the seat. Mrs. S—— obtained a full view of the man's genital organs and retired.

In course of time her child was born, and on its abdomen was pictured in bold relief the external reproductive organs of a male. That child is a man to-day, and carries the impressions of the organs mentioned indeliby stamped upon his abdomen through some mysterious agency of nature.

E. J. Bergen, M.D.

Washington, N. J.

A Correspondent, significantly we presume, asks the question if there is any case on record of an American woman giving birth to five children at one time?

ANOTHER MATERNAL IMPRESSION.

To the Editor of the Medical Record.

Sir: I contribute my morsel to the symposium on maternal impressions. Mrs. S—— has thirteen children, all perfectly formed except the tenth, who has a congenital cataract in his left eye. When she was one month gone in this pregnancy the late Dr. Agnew removed the left eye of her only grandchild for irido-choroiditis. The removed eye was blind, and showed a gray reflex from the fundus. Naturally the occasion of the operation was one of great excitement and sorrow throughout the entire family, and the grandmother was especially troubled. Eight months after the operation the delivery occurred, with the result above stated. The new-born child showed the same gray reflex from the pupil that had been observed in the grandchild, but from an entirely different cause, viz., congenital cataract.

James L. Kortright, M.D.

November 28, 1891.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 29, 1891, to December 5, 1891.

Glennan, James D., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month, with permission to apply for an extension of one month.

Burton, Henry G., Captain and Assistant Surgeon. Ordered to report to the president of the Army Retiring Board at Los Angeles, Cal., for examination by the board; on conclusion of his examination will return to his station at San Diego Barracks, Cal.

Shillock, Paul, First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Yates, N. D., and ordered to Fort Grant, Ariz. Ter., for duty.

Suter, William N., First Lieutenant and Assistant Surgeon. Relieved from further duty at Fort Grant, Ariz. Ter., and assigned to duty at Fort Bowie, Ariz. Ter.

Taylor, Arthur W., Captain and Assistant Surgeon. Having been found incapacitated for active service by an Army Retiring Board, will proceed to his home.

Stephenson, William O., Captain and Assistant Surgeon. Relieved from duty at Columbus Barracks, O., and will report in person to the commanding officer at Fort Niagara, N. Y., for duty at that post.

Official List of Changes in the Medical Corps of the United States Navy for the week ending December 5, 1891.

Heyl, T. C., Surgeon. Placed on the retired list, December 3, 1891.

Jones, W. H., Surgeon. Promoted to Medical Inspector, November 14, 1891.

Anderson, Frank, Passed Assistant Surgeon. Promoted to Surgeon, November 14, 1891.

Blackwood, N. J., Assistant Surgeon. Detached from Navy Yard, League Island, Pa., and ordered to the Miantonomah.

Morris, Lewis, Assistant Surgeon. Ordered to the Navy Yard, League Island, Pa.

A Too Zealous Malthusian.—An Oxford M.A. and legal practitioner has been arrested and fined in London for circulating pamphlets with directions for preventing conception. It was his habit to study the announcements of births in the newspapers, and send one of his circulars to the happy father.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 5, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	29	11
Scarlet fever	133	19
Cerebro-spinal meningitis	1	4
Measles	85	6
Diphtheria	114	32
Small-pox	0	0
Varicella	5	0
Pertussis	3	1
Erysipelas	1	0
Mumps	0	0
Rötheln	0	0

Hard Chancre of the Lip and Soft Chancre of the Genitals.—Dr. P. I. Messarosh relates, in the *Meditsinskoye Obozrenie*, No. 17, 1891, the case of a young man, twenty years of age, who presented himself at the Astrakhan General Hospital for treatment of a sore lip. Examination revealed the presence of a true Hunterian chancre on the upper lip, and also a soft chancre of the penis. The patient stated that he had accidentally bitten his lip some time before, and that soon thereafter a sore appeared which refused to heal in spite of numerous domestic remedies which he had applied. While the man was still under treatment a woman presented herself for treatment for syphilis. She was found to be suffering from general syphilis, having mucous patches in the mouth, and also from soft chancres in the vagina. This woman, it was subsequently ascertained, was the mistress of the other patient, with whom he had lived for several months, and from whom undoubtedly he had acquired his lesions.

Tuberculin in Russia.—The Russian authorities have forbidden any further experiments with tuberculin in the military hospitals of that country, in consequence of the negative, or even positively injurious, results that have thus far been obtained.

Outstanding Ears.—Mr. William Thomas, of Birmingham, describes, in the *British Medical Journal* for October 17, 1891, the following operation by which he has succeeded in making flaring ears lie close to the head. The operation consists in the removal from the inner surface of the pinna of an elliptical piece of skin, dividing the cartilage of the pinna down the centre of the exposed cartilaginous surface, and uniting the margins of skin by sutures. The widest part of the skin removed should be from half to three-quarters of an inch, but of course this depends on the degree of deformity. It is necessary to divide and turn back the cartilage, not only to remedy the deformity but also to allow of easy approximation of the skin margins, and care must be taken to avoid division of the outer skin with the cartilage. The after-treatment consists in the application of a small cotton-wool pad between the head and the pinna—the latter being fixed by a bandage until healing is complete. Immediately union takes place, and there is hardly any perceptible scar, the skin of the ear having great vitality. A simple method of keeping the outstanding ears back without operation is to fix them by a piece of lint soaked in collodion, and placed between the pinna and the head, the ears being bandaged close to the head until the collodion is firmly set. The adherent splint thus formed will hold the ear in position for two or three weeks, when it may be renewed. It is, however, only a temporary measure. The principles of the operation are applicable to various malformations of the pinna.

BOOKS RECEIVED.

MANUAL OF PHYSICAL DIAGNOSIS. By James Tyson, M.D. 12mo. 136 pages, illustrated. P. Blakiston, Son & Co., Philadelphia, Pa.

A COMPEND OF HUMAN PHYSIOLOGY. By William J. Watkins, M.D. 12mo, 244 pages. Louisville, Ky.

THE GREATER DISEASES OF THE LIVER. By J. Compton Burnett, M.D. 12mo, 186 pages. Hahnemann Publishing House, Philadelphia, Pa.

PULMONARY TUBERCULOSIS, ETIOLOGICAL AND THERAPEUTIC. By R. W. Philip, M.D. 8vo, 55 pages. Young J. Pentland, London.

HISTORY OF CIRCUMCISION, FROM THE EARLIEST TIMES TO THE PRESENT. By P. C. Redmondino, M.D. 12mo, 346 pages, illustrated. F. A. Davis, Philadelphia, Pa. Price: cloth, $1.25; paper, 50 cents.

ESSENTIALS OF BACTERIOLOGY. By M. V. Ball, M.D. 12mo, 159 pages, illustrated. W. B. Saunders, Philadelphia, Pa. Price, $2.

SYLLABUS OF THE OBSTETRICAL LECTURES DELIVERED IN THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF PENNSYLVANIA. By Richard C. Norris, M.D. Second Edition. 12mo, 198 pages, interleaved. W. B. Saunders, Philadelphia, Pa. Price $1.

MANUAL OF CHEMISTRY. By W. Simon, M.D. Third Edition, thoroughly Revised. 8vo, 479 pages, illustrated. Lea Brothers & Co., Philadelphia, Pa.

TEXT-BOOK OF COMPARATIVE ANATOMY. By Dr. Arnold Lang. Translated by H. M. Bernard and Matilda Bernard. Part I. 8vo, 562 pages, illustrated. Macmillan & Co., New York. Price, $5.50.

PTOMAÏNES, LEUCOMAÏNES, AND BACTERIAL PROTEIDS. By V. C. Vaughan, M.D., and F. G. Novy, M.D. Second Edition, Revised and Enlarged. 8vo, 391 pages. Lea Brothers & Co., Philadelphia, Pa.

A TEXT-BOOK OF PHYSIOLOGY. By M. Foster, M.D. Sixth Edition, Revised. Part IV., 418 pages. Macmillan & Co., New York. Price $2.

A TREATISE ON PRACTICAL ANATOMY. By Henry C. Boenning, M.D. 8vo, 481 pages. F. A. Davis, Philadelphia, Pa. Price, $2.50.

THE DOCTOR'S LEDGER. Royal 8vo, 300 pages. Price $3.75. Published by C. A. Price, Jersey City, N. J.

SAUNDERS'S POCKET MEDICAL FORMULARY, WITH AN APPENDIX. By William M. Powell, M.D. 12mo, 261 pages. Price, tucks, $1.75; cloth, $1.50. W. B. Saunders, Phildadelphia, Pa.

A MANUAL OF PRACTICAL OBSTETRICS. By Edward P. Davis, M.D. 8vo, 298 pages. Illustrated. P. Blakiston, Son & Co., Philadelphia, Pa.

A MANUAL OF VENEREAL DISEASES. By Everett M. Culver, M.D., and James R. Hayden, M.D. 8vo, 294 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

A PRACTICAL TREATISE ON THE DISEASES OF THE EAR. By D. B. St. John Roosa, M.D. 8vo, 741 pages. Illustrated. Price, cloth, $5.50; leather, $6.50. William Wood & Co., New York.

RECENT MATERIA MEDICA, NOTES ON THEIR ORIGIN AND THERAPEUTICS. Fourth Edition. By F. Harwood Lescher, F.C.S. 8vo, 115 pages. J. & A. Churchill, London.

HUMAN MONSTROSITIES. By Barton Cooke Hirst, M.D., and George A. Piersol, M.D. Large folio, 13 × 17 inches. Part I., 88 pages of text. Illustrated. Price $5 per part. Lea Brothers & Co., Philadelphia.

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Original Articles.

CONSERVATIVE SURGERY APPLIED TO THE OVARY.

BY T. GAILLARD THOMAS, M.D.,

NEW YORK.

History of Case.—Mrs. P——, a nullipara, married three years but never pregnant, came on from Cincinnati to consult me about October 1st of the present year, on account of sterility, painful and irregular menstruation, pelvic neuralgia extending down the thighs, depression of spirits, persistent leucorrhœa, and impaired nutrition, which demonstrated itself by emaciation, or rather by the absence of all tendency to adipose deposits.

Upon physical examination the uterus was found decidedly anteflexed, and the cervical mucous membrane granular from prolonged contact with ichorous leucorrhœal discharge. The left ovary was found to be as large as a small hen's egg, prolapsed and tender; and the right ovary as large as a small orange, or a large goose egg, prolapsed low down in the pelvis a little below the brim, and firmly fixed by adhesions.

The patient entered my hospital about October 15th, and laparotomy was performed at 10 A.M., on October 28th.

Description of Diseased Parts.—Upon opening the abdomen, the left ovary was found to be unattached by adhesions. It was as large as a small hen's egg, had a number of little peripheral cysts over its surface, and upon palpation presented unmistakable evidences of containing fluid of dense character. This ovary, with its corresponding Fallopian tube, was removed in the ordinary way, and upon being bisected, presented the appearance depicted in Fig. 1. The superficial cysts were, apparently, due to dropsies of the Nabothian follicles. The centre of the ovary was occupied by a mass of black, grumous blood, about as solid as that which usually makes up the bloody material of a pelvic hematocele. This was the result either of an ovarian apoplexy, or of a small blood cyst; I am decidedly of the opinion that it had the former origin.

FIG. 1.—Left Ovary with Superficial Cysts in Stroma, and Large Blood-mass in Centre.

The right ovary with a thick-walled cyst, which existed between itself and its ligament below and the Fallopian tube above, was firmly fixed by adhesions in the pelvis, and had to be enucleated, or "shelled out" by tearing attachments with the finger. Lifted into the abdominal opening, the condition of the parts was found to be that shown in Fig. 2.

The tumor depicted was one developed in the right broad ligament, and was firmly attached to the Fallopian tube above, and the surface of the ovary below.

Operation.—The patient was extremely desirous of becoming a mother, and I was very averse to following the usual practice of ligating the parts below the ovary and removing this organ together with the cyst and Fallopian tube. Instead, therefore, of doing this, I split the broad ligament with a bistoury guided by a grooved director, and at the expenditure of considerable time shelled out

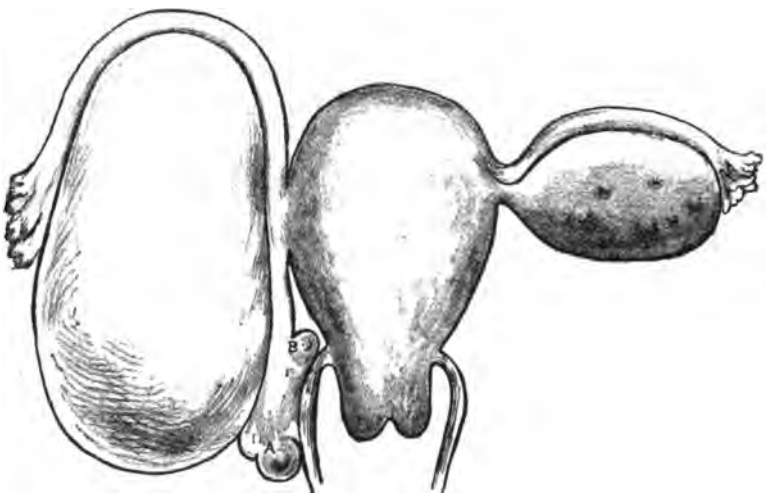

FIG. 2.—Showing Relation of Parts Described in Text. *A* and *B* are Cysts of Right Ovary as Large as Cherry-stones.

the cyst entirely and without evacuating its contents. Then I applied a half dozen ligatures of Chinese silk to the bleeding vessels, and with fine catgut closed the opening in the broad ligament carefully and completely.

Two cysts as large as cherry-stones were found in the ovary. These were opened and their cavities lightly cauterized with Pacquelin's thermo-cautery brought to a white heat. Then the Fallopian tube which, in consequence of these manipulations, had been broken completely away from the ovary, was attached to that organ by a strong catgut suture, the parts were returned to their normal places, and the abdominal wound was closed by silkworm gut.

The patient, as soon as ether narcosis had passed off, was made happy and hopeful by the announcement that the prospects of maternity had not been destroyed by the operation, but on the contrary, had been much increased. Upon receiving this intelligence she said, very promptly and decidedly, "Thank you for telling me this at once; now I shall surely get well, for I desire very much to live and am determined to recover. Had you confirmed my fears as to the result of the operation upon the prospects of having children, I should have been indifferent as to the end."

The steps of the operation, simple as they were, were very tedious, and over an hour was expended in their performance. Mrs. P—— made a rapid and easy recovery, and at the next regular menstrual epoch menstruated normally and painlessly, as I very confidently expected that she would do.

Although this case presents no features of great interest or moment, I report it as a contribution to the daily growing subject—the conservative surgery of the ovary. Certain I am that ten, or even five, years ago in my hands the ovary, which in this case has been saved, would have been destroyed; one more sterile female would have been added to the number daily created by the gynecologist; and one more disappointed and sorrowing woman made to swell the already long list of those who bemoan a childless existence.

CLINICAL REMARKS ON ACUTE PULMONARY ŒDEMA.[1]

By A. ALEXANDER SMITH, M.D.,

NEW YORK.

ŒDEMA of the lungs is of such frequent occurrence and presents itself under such a variety of conditions, it seems not amiss to discuss its means of relief. In itself a very serious symptom, it always indicates a grave pathological condition in the organism. While it may occur in the course of a great variety of diseases, the most frequent conditions under which it occurs is in disease of the heart, or the lungs, or of the kidneys.

The transudation of serum into the tissues may depend on many causes—the condition of the blood, the condition of the walls of the blood-vessels, the condition of the heart-power, obstruction to the flow of blood, the amount of urine secreted, and the condition of functional power of the nerve-supply to the blood-vessels and the viscera.

An hydræmia is the recognized condition of the blood as almost essential to the occurrence of œdema in the vast majority of cases. But hydræmia alone will not suffice to explain all cases of œdema. The blood has by experiment been overloaded with a saline solution producing an "artificial hydræmia," and yet rarely has œdema been produced under such circumstances.

Changes in the walls of the blood-vessels by which they become abnormally pervious, favor the transudations. These changes may be due to hydræmia, at least may largely depend on it. To perform their functions properly, the walls of blood-vessels must have not only good blood to act upon, but they derive their nutriment from the fluid they carry, and their nerve-supply must be unimpaired.

An enfeebled heart is recognized as a condition favoring the transudation of serum, whether this enfeeblement be due to disease of the heart itself or to disease elsewhere, producing enfeeblement of the heart-wall. The experiments of Welch seem to show that this enfeeblement in pulmonary œdema must be of the left ventricle. But this alone does not seem to satisfactorily explain all cases of pulmonary œdema. How often we see most marked enfeeblement of the left ventricle from various causes and no pulmonary œdema occurs.

Obstruction to the flow of blood from any cause, especially when it allows of venous stasis, favors the escape of serum from the blood-vessel walls. But mere mechanical obstruction will not always satisfactorily explain the occurrence of an acute œdema. The familiar experiment of Ranvier of tying the femoral vein produced no œdema, but when he severed the nerves supplying the vessel œdema appeared quickly. That interference with the proper functional activity of the nerve-supply to the blood-vessel wall plays an important part in the production of œdema I am convinced is the only satisfactory explanation of the occurrence of œdema in some cases. This is especially true of pulmonary œdema. In cirrhotic kidney not infrequently a pulmonary œdema will occur suddenly, and that too when the patient does not suffer from œdema elsewhere, as of the surface and in the large serous cavities. As is well known cardiac hypertrophy is more apt to accompany this form of renal disease than any other. Even with an hypertrophied heart, in some of these cases pulmonary œdema will occur. There is not present any marked condition of hydræmia; the heart is hypertrophied; to be sure, there are apt to be marked changes in the walls of the blood-vessels, especially of the arterial system; yet pulmonary œdema occurs and occurs quite suddenly. The explanation, it seems to me, is in the effects of the poison on the ganglionic system, interfering with its proper function, causing it to lose its control over the walls of the blood-vessels, and a transudation occurs. An additional explanation might be found, too, in its poisonous effects on the respiratory centre. The sudden effect of the accumulated poison on the nerve-centres and on the ganglionic system is forcibly illustrated in so-called uræmic dyspnœa. The difficulty comes on very suddenly and disappears almost as suddenly. The attacks come on most frequently in the evening or at night. Sometimes in such cases the gastric distention occurring after a meal interferes with the free movements of the diaphragm. This interference may be the exciting cause of an attack of dyspnœa, but when the attack comes on during the night, as not infrequently happens, it cannot be explained in this way. There seems to be no satisfactory explanation, except on the ground of the effects of the poison on the nerve-centres and on the ganglionic system. Pulmonary œdema may come on as suddenly, although such occurrence is more rare than in uræmic dyspnœa. An attack of acute pulmonary œdema may be the first grave symptom suggesting kidney disease.

Again, in acute renal disease pulmonary œdema may occur as a complication, and that, too, of a severe character and quite suddenly. This may take place before hydræmia has developed to any great extent and before the disease has existed a sufficient length of time to cause changes in the heart-muscle. Now it seems to me its occurrence under such circumstances must be attributed largely to the influence of the poison on the nervous system, and especially on the ganglionic system. The serum transudes from the walls of the blood-vessels. The vasomotors preside over the functions of the blood-vessels and afford channels of communication between the blood-vessels and the nerve-centres. It seems rational that any agent, such as the poison which accumulates in renal disease, which produces such a deleterious influence on the nervous system, might so interfere with the proper function of the walls of the blood vessels as to allow the serum to transudate.

The quantity of urine secreted is an important factor in many cases, and yet how often we observe cases in which there is a very small quantity of urine secreted and no œdema occurs; at least not until the kidney disease has existed for so long a time that changes have occurred in the blood, in the heart-muscle, and in the walls of the blood-vessels. I have no doubt every member of the New York County Medical Society can recall cases in which cessation of urinary secretion lasted for several days and in which no œdema occurred. I have seen such cases and many have been reported. A patient a few years ago at Bellevue Hospital had one kidney removed and there was no urine secreted for eleven days and no œdema occurred. Of course the skin acted freely all this time.

The autopsy showed that her only kidney had been removed. These statements seem to be almost contradictory. In some persons there seems to be an extraordinary tolerance to the poison which should be eliminated by the kidneys, and in others only very slight tolerance.

The time-honored, traditional, and I might say orthodox treatment by the application of dry cups to the chest-walls is disappointing; at least it can play but a small part in the relief.

Alcoholic stimulants have been unsatisfactory. I am inclined to think they actually do harm by increasing the difficulty. The left ventricle is trying to force the blood into an arterial system already obstructed because of the stasis in the venous system.

[1] Read before the New York County Medical Society, November 23, 1891.

The method of treatment I have found most successful in many cases is a combination of strychnine and atropine by hypodermic injection and nitro-glycerine by the mouth. The quantity used is $\frac{1}{10}$th grain strychnine and $\frac{1}{100}$th grain atropine, given together, and $\frac{1}{100}$th grain nitro-glycerine at the same time. The conditions which have resulted in a pulmonary œdema have also lessened the power of the stomach to take up medicinal agents; at least we cannot be so certain of their absorption as when given hypodermically. The nitro-glycerine is so diffusible it is very readily absorbed and produces its effects very quickly, as much so when swallowed as when given under the skin. Usually these are repeated in two hours. The strychnine increases the force of the heart by stimulation of the heart-muscle and its ganglia, while there is also stimulation of the vaso-motor centre. It is the most constant and powerful respiratory stimulant we possess. The atropine increases the force of the heart and stimulates the vaso-motor and respiratory centres. The nitro-glycerine dilates the arterial blood-vessel system, probably by its action on the vaso-motors, thus relieving the venous stasis. It acts to distribute the blood throughout the arterial system, in this way relieving an over-worked and weakened heart. By its action on the arterial system it gives the strychnine and atropine a better opportunity to produce their physiological effects more decidedly, it by rapid diffusion throughout the system, they by acting on the heart and respiratory centre, enabling the heart to do its work more freely and forcibly. After the first repetition the atropine is discontinued and the nitro-glycerine and strychnine continued every two hours until relief is marked.

Opium and nitro-glycerine have given the best results in pulmonary œdema occurring as a complication of acute renal disease, and in cases of sudden pulmonary œdema in renal disease accompanied by hypertrophied heart. The sudden accumulation of poison acts on the nerve-centres and on the vaso-motors, interfering with their regulation of blood in the capillaries. The opium counteracts the effects of this poison, and the nitro-glycerine aids in the restoration of the functions of the capillaries. In acute so-called uræmic poison it is not at all uncommon, when the convulsions have been controlled and the coma relieved by opium, to find the kidneys resuming their functions. It seems to me that the explanation of this is not at all difficult. The nerve-supply to the kidney has been acted on by the accumulated poison in such a way as to destroy its function temporarily. The opium neutralizes the effects of this poison on these nerves, rests them, as it were, and they resume their function. Besides the effects of this accumulated poison on the blood and blood-vessel wall, there is an effect produced on the nerve-supply to such blood-vessels, those in the lungs, as well as those in the brain. The opium neutralizes this effect and the function of the nerve-supply to the capillaries is restored. The dose I have usually given is $\frac{1}{8}$th grain morphine and $\frac{1}{100}$th grain nitro-glycerine every two hours until relief is obtained. When cyanosis with pulmonary œdema is very marked, oxygen has seemed to me to give relief to the dyspnœa, if cautiously administered. I have had more satisfactory results by giving it with the tube, not too near the patient's mouth, say two inches from it, mixing it in this way with atmospheric air. I have seen the difficulty of breathing much aggravated if pure oxygen is administered too freely. In fact, a patient with acute pulmonary œdema will usually refuse to take the tube in his mouth, because of its obstructing his efforts at breathing.

Quickly acting cathartics will aid in the relief, but we cannot rely entirely on them, as we cannot wait for them to act. They can be given in connection with the other treatment suggested. I have found the salines give the best results.

In the acute general pulmonary œdema occurring in connection with pneumonia, the strychnine and atropine and nitro-glycerine have given relief often. Of course if this pulmonary œdema is due to the general failure of vital powers just preceding death, as occurs in this as in many other diseases, neither this nor any other treatment will be of avail.

THE TREATMENT OF UTERINE HEMORRHAGE.

By HERMAN E. HAYD, M.D., M.R.C.S.Eng.,
BUFFALO, N. Y.

In the treatment of hemorrhage we must endeavor, as far as possible, to find the cause, in order to bring about such a condition of the body as will lessen any tendency to blood stasis. In a general way we may say, the more the bleeding is due to local causes the more likely will it be controlled by local measures. If anæmia, with its consequent loss of tone and a generally relaxed condition of the system, be the principal causative feature, tonics in the shape of iron—especially the tincture of the chloride—arsenic, and an abundance of good nourishing food, and outdoor exercise, and brisk dry rubbing, or even a daily cold sponge-bath, if borne, will be indicated. Occasionally plethora may be responsible, and if so, it is best met by brisk saline cathartics, a simple but nutritious diet, and active exercise, especially walking, and regular systematic gymnastics. If obstructive causes in remote organs be present, as valvular heart lesions, lung, kidney, or liver complications, etc., such general measures should be employed as would naturally be suggested. However, uterine hemorrhage, either as menorrhagia or metrorrhagia is more often the result of local disease in the uterus or its appendages, and will be satisfactorily controlled by relieving or curing the diseased conditions which produce it.

In recent subinvolution following abortion, where slight hemorrhage continues for days and even weeks, due to a want of tonic contractility in the uterine muscle fibre, vaginal faradization every day, or every other day, will be found eminently satisfactory. The use of ergot, even in large doses, alone or combined with other uterine stimulants, is often not sufficient to control this condition, and there soon results from a simple inertia a possible chronic subinvolution with fungous endometritis, salpingitis, and all their attending complications. Moreover, after too frequent child-bearing, or in conditions of debility accompanying recent parturition, when the womb lacks its proper contractile power, and as a result absorption and involution are impeded, the faradic current combined with general tonic treatment will give the most gratifying results.

Mrs. F——, aged thirty-four; second confinement; first, nine years ago. Labor satisfactory and no special hemorrhage. Physical condition much below par; extremely debilitated, thin and emaciated from the exhausting vomiting, which persisted during the greater part of utero gestation. Slight bleeding persisted for three weeks, notwithstanding rest in bed during the whole period, regular and systematic applications of the child to the breast, injections of very hot water, and the administration of ergot, and good, easily digested food. Vaginal faradism was employed, with the effect of at once stopping the hemorrhage, increasing the tone of the vagina and uterus, and bringing about constant and continuous contractions, which resulted in a satisfactory involution. The patient was permitted to get up, and by the end of the fourth week could walk with comfort. The womb was in good position, of course heavy and enlarged, and there existed but very little leucorrhœa. The applications were continued for one month, and were made by the patient herself every day, the *séance* lasting about seven minutes, the strength of the current estimated by her own feelings, and as much was taken as could be conveniently borne. The bowels became regular, the appetite improved. The general condition was satisfactory, and the woman made an excellent recovery.

Mrs. T——, abortion at third month, a well-nourished woman of good fibre, complained of hemorrhage and pain in the lower abdominal regions. This bleeding had continued for three weeks, notwithstanding the administration of ergot and other remedies. I satisfied myself that no piece of placenta, or secundines remained in the uterus, and that the hemorrhage was probably due to a want of tonic contractility of the uterine muscle-fibre, the result, perhaps, of too early exercise, the patient having gotten up on the third day. Vaginal faradism was then employed, with the effect of completely and permanently stopping the hemorrhage. The treatment was continued for a few weeks, in fact until the second period came on, which was normal in amount, and without pain. The result of the treatment in these two cases suggests the employment of the faradic current in all recent uncomplicated cases of subinvolution, and shows conclusively how chronic womb troubles, with all their accompanying distress and dangers, can often be avoided, and without adding any element of danger by needless intra-uterine medication.

When the subinvolution is of long standing other pathological conditions become important factors in the case, namely, enlargement from hyperplasia of tissues, with accompanying malpositions, chronic catarrhal processes, either as endometritis or endocervicitis, salpingitis, and often ovaritis, para- and peri metritic deposits. In all of these conditions properly directed electrical treatment will greatly assist other recognized measures in bringing about a more speedy, as well as satisfactory cure. In these conditions more than a muscle tonic is required; consequently, galvanism with its chemical and electrolytic properties is indicated. There is no doubt that much trouble has resulted from the careless and indiscriminate use of the intra-uterine electrode. Just as the passage and use of the uterine sound is attended with certain dangers, so will the introduction of the uterine electrode into the uterine cavity, if no regard is shown for the surrounding tissues. The golden rule to have constantly in one's mind in intra-uterine medication is to lessen all active inflammation in the tubes and ovaries by positive vaginal galvanism or by the fine faradic coil—as recommended by me in the *Archives of Gynecology, Obstetrics, and Pædiatrics*—which is more sedative, analgesic, and anti-inflammatory in its effects. By reducing all active perimetritic inflammation to such a degree that an examination produces but little or no pain, which is usually accomplished even in severe cases in from six to ten treatments, using no force in the placing of the electrode and keeping it as quiet as possible when in the cavity, using low currents, having short sittings in the first applications, and by exercising due antiseptic precautions, there is practically no danger in the use of electricity, and only good and satisfactory results will crown our efforts in most cases.

When one is satisfied that there exists much degeneration of the endometrium, which can fairly well be demonstrated by the profuse uterine discharge, persistent and active hemorrhage (especially when the sound is introduced), curettement is indicated. In order to prevent the return of these granulations, positive galvanism, from fifty to sixty milliampères, a few days after the operation, and continued twice a week for a few weeks, will ensure us against their return. I believe that positive galvanism will destroy this condition, even without a previous curettement; but if time is an element in the case a cure will be more readily brought about by first scraping the uterine cavity, and then applying the current. Malpositions, consisting of a moderate degree of prolapse, anterior or posterior displacements, when consequent upon a heavy subinvoluted organ, are unquestionably relieved and often cured by the same means which is being employed in the treatment of the hemorrhage. Electrolytic decomposition and absorption of lymphoid elements takes place, a large, swollen, displaced womb becomes smaller and in its involution has a tendency to assume a normal position. When the malposition has existed for a long time and a decided atrophy of tissue has taken place at the seat of curvature, or adhesions hold the body in its altered position, other means must suggest themselves. Occasionally a pessary may be of service, but I am inclined to believe that in most cases these awkward appliances do more harm than good, by exercising continuous distention upon the vaginal walls, and at the best setting up more or less irritation by their presence. Well-applied tampons and the faradic current, I believe, will do much more in these cases and serve their purpose upon physiological principles. Add to this regular and systematic massage and uterine manipulation as suggested by Brandt, and I am satisfied few cases will require any other measures.

When the hemorrhage is the result of enlargement of the womb, as well as engorgement of its mucosa, consequent upon extreme laceration of the cervix and eversion of its lips with cauliflower excrescence, the edges of the torn cervix should be denuded and brought together, and the womb thoroughly curetted. But if the laceration is not deep, and the eversion which exists is more the result of chronic inflammatory changes in the cervix, resolution will be accomplished without operation, and a satisfactory recovery in most cases result from properly directed local treatment, and here I can particularly mention galvanism—the positive pole, fifty to sixty milliampères twice a week, so long as there exists any tendency to hemorrhage, and then substitute for it negative galvanism. I employ glycerine tampons to hold the uterus in place and to encourage the profuse watery discharge, and vaginal faradism to tone up the relaxed condition of the vagina and uterine ligaments, which are usual conditions in these cases.

Mrs. L——, aged thirty-one. Miscarriage eight months ago; ovum five months. She had subinvolution and anteversion of the uterus. There was a small polyp on the anterior lip of the cervix, which was, however, removed with the forceps. There was double laceration of the cervix with some eversion of the lips, the os was much enlarged, and deeply congested, and here and there were denuded spots. The patient had endocervicitis and endometritis with thickening of both ligaments, and the vaginal vault was contracted. The womb was bound down anteriorly from peri-metritic adhesions, and a painful, exquisitely tender swelling existed in the left broad ligament, probably an inflamed ovary. The sound entered four inches. The menstrual periods come every three weeks, and there is much pain before and during the first day. She loses much clotted blood, and the flow lasts seven or eight days. The patient is much reduced in flesh, is pale and anæmic, and complains of weakness and fatigue, especially upon exertion. She has pain in the back and sides, especially on the left, extending into the leg; bearing-down pains and distress in the bladder.

A fine faradic coil of the Gaiffè battery was used, with the Apostoli large-sized double vaginal electrode. First one cell was connected, then the primary coil was withdrawn from the secondary, and two cells attached, and so on until six cells were connected, and a powerful current was generated. The *séance* lasted fifteen minutes, with the effect of lessening very materially the pain and tenderness, enabling me to make a very vigorous and thorough examination. This treatment was repeated every other day for two weeks. Hot-water injections were employed, and the vagina was thoroughly packed with glycerine and iodoform tampons. After six faradic treatments the pain and tenderness upon examination were so slight that the faradic current was discontinued and positive galvanism was employed, first of the strength of thirty, but gradually increased to sixty milliampères. The electrode was moved from place to place over the vaginal vault.

Thirteen treatments were made. There was material diminution in the swelling about the tubes, the thicken-

ing and infiltration were much less, and the womb was quite movable. It was now deemed advisable, as well as prudent, to insert an intra-uterine electrode, and apply positive galvanism, thirty milliampères to the lining membrane of the uterus. No pain or great discomfort accompanied or followed the treatment, and at the next visit fifty milliampères were administered. These applications were continued for two months, and at the end of this time the patient was discharged cured. The last note in my case-book was: "Period came with little or no pain; used seven napkins; sick four days. Has no pain in her marital relations. General physical condition excellent, and gained seventeen pounds in weight."

Hemorrhage resulting from a fibroid tumor can usually be controlled by positive galvanism; at all events, the results have been so encouraging in my hands that I shall always first employ this treatment before resorting to other operative measures. Occasionally the faradic current is very useful in assisting the expulsion of a uterine polyp, so that an écraseur can be applied, and complete its delivery, as happened in one case under my care when profuse and exhausting hemorrhages had existed for months.

78 Niagara Street.

SUBGLOTTIC LARYNGITIS, OR CATARRHAL CROUP, AS ONE OF THE MANIFESTATIONS OF LYMPHATISM.

By F. H. BOSWORTH, M.D.,

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In a recent article on the subject of "Lymphatism," read before the American Climatological Society, September 23, 1891, I took the ground that, underlying the development of hypertrophic changes in the faucial and pharyngeal tonsils, was a systemic dyscrasia, of the existence of which the presence of these hypertrophies should be accepted as evidence. This dyscrasia exerts its influence on the lymphatic tissue, and is therefore designated as lymphatism.

A number of cases which have come under my observation recently, have induced me to somewhat extend this domain of lymphatic influence, and suggest that probably a large majority, if not all, cases of what are usually designated as subglottic laryngitis are really the result of hypertrophic changes in the lymphatic structure situated in the mucous membrane of the subglottic portion of the larynx.

The following cases are selected as presenting points of special clinical interest, two of them in children and two in young adult life.

Case I.—On May 6, 1891, I was called to see, in consultation, a child aged six months, suffering from laryngeal dyspnœa. The disease had existed for thirty-six hours, and was apparently the result of a cold. The child was a strong, healthy baby, who about six weeks before had had a mild attack of croup, which had passed away. The present attack was ushered in with hoarseness, slight cough, followed by complete aphonia and dyspnœa at the end of about six to eight hours. The breathing was stridulous and the dyspnœa both inspiratory and expiratory, and was somewhat paroxysmal in character, the dyspnœic attacks coming on, lasting from one to three hours, and then subsiding. During the intervals the breathing was slightly stridulous, but not especially labored. When I saw the child the dyspnœic symptoms were marked and somewhat distressing in character. The temperature was 99⅘° F., the pulse rapid and strong, and the skin moist. The difficulty in breathing was of such a distressing character that tracheotomy seemed to be urgently demanded; and yet, failing to find any evidences of pseudo-membranous formation, I concluded that we had to deal here with a subglottic laryngitis. Furthermore, the faucial tonsils showed such evidences of hypertrophic changes that I felt warranted in the conclusion that the disease was of lymphatic origin. The child was placed immediately upon the syrup of the iodide of iron, five-drop doses being administered every hour. The dyspnœa continued for about four hours after the first dose of the medicine, during which time, fearing that medication had failed to give relief, preparations were made for the performance of intubation. The symptoms however began to abate, and operative interference became unnecessary. The child was subsequently placed under a course of treatment with the iodide of iron, and up to the present date there has been no return of the croupy attack.

Case II.—On November 9, 1891, a child, four and a half years of age, was brought to me for treatment. She was a slender, delicate child, who had been especially liable to attacks of sore throat for some two years back; these were usually attended with attacks of croup, which were often of a somewhat alarming character, usually occurring at night. I found the faucial tonsils notably enlarged, although the pharyngeal vault was clear. The faucial glands were both removed at a single sitting by means of the guillotine. On the same night the child was seized with one of her croupy attacks, which was mild in character and passed away. On the second night another attack came on somewhat suddenly, and of a rather severe type. An examination of the larynx at this time showed a well-developed subglottic laryngitis, the mucous membrane immediately below the vocal cords being notably swollen and protruding itself well into view below the free edge of the vocal bands. The child was immediately placed on fifteen-drop doses of the syrup of the iodide of iron every hour, for four or five doses, and the next day, the acute attack having disappeared, she was put on a somewhat protracted course of the same drug. There has been no return of her croupy attacks.

The following cases occurred in young adult life, and at a period when a subglottic engorgement gives rise to a vocal impairment and cough rather than to dyspnœic symptoms.

Case III.—This was the case of a young lady, aged thirteen, who consulted me in the fall of 1884. She was especially liable to colds, which developed in the form of a most curious coarse, harsh, barking cough, which was paroxysmal in character and very persistent. These attacks would last from two to four days, during which the paroxysms of barking cough would come on at intervals of every four or five minutes. She had hypertrophic rhinitis, deflected septum, with enlarged faucial and pharyngeal tonsils. The larynx showed notable subglottic thickening, the bulging mucous membrane being clearly seen in outline projecting beyond the vocal band when abducted. This condition I regarded as purely catarrhal in character, as regards the subglottic larynx, and hence depended for treatment mainly on the relief of the intranasal disorders. This patient was under occasional observation for two or three years, during which time the catarrhal disorder was relieved. These curious attacks of barking cough, however, still continued, although with diminished frequency. I finally made up my mind that there was a lymphatic element in the subglottic disease, and removed the faucial, pharyngeal, and lingual tonsils. The removal of the faucial and pharyngeal tonsils did not seem greatly to modify the attacks; the removal of the lingual tonsil, however, was followed by almost complete arrest of her peculiar attacks of barking cough. This patient was subsequently placed under a course of treatment with the iodide of iron. The interesting feature of the case was the disappearance of her attacks by the excision of the lingual tonsil, before she was placed under the course of the iodide of iron treatment.

Case IV.—This was the case of a young lady, aged twenty-five, who consulted me October 31, 1890, in regard to a moderate amount of catarrhal trouble, which she had suffered from since an attack of diphtheria at the age of eight. Her catarrhal trouble was not the source of much annoyance, but she had a fine soprano voice, and she found the notes of the head register im-

paired, the voice tiring easily with the effort at taking the high notes, although the tone seemed to be fairly clear. An examination showed a characteristic thickening below the cords of a subglottic laryngitis, although the vocal bands themselves were perfectly normal. The nasal passages were in a fairly healthy condition, the pharyngeal vault showed evidences of naso-pharyngeal catarrh, while at the base of the tongue there was found a large lingual tonsil in which the crest of the epiglottis buried itself, especially in the enunciation of the high notes. The subglottic affection in this case did not seem to give rise to any prominent symptoms with reference to the larynx, and yet the swelling in this region was quite as marked as in any case which I have observed in adult life. The lingual tonsil was successfully extirpated at a single sitting, being taken out in a number of pieces by means of the snare. On examination a week later, the parts had thoroughly healed up, and the patient reported an almost complete restoration of vocal power. An examination of the larynx showed, very much to my surprise at the time, almost a complete disappearance of the subglottic swelling.

The feature of especial interest in these two latter cases is, that the subglottic swelling subsided so promptly after the removal of the hypertrophied lymphatic tissue at the base of the tongue. Why this should occur, it is perhaps not easy to give an explanation; the clinical feature, however, seemed to my mind clearly established. Furthermore, this seemed to indicate such a direct relation between the two conditions as to suggest to my mind that the subglottic disease was also lymphatic in character; a view which subsequent observation, especially with reference to young children, seemed to confirm.

A subglottic laryngitis has usually been regarded as purely of a catarrhal nature, and the thickening to be due to either a turgescence of the blood-vessels or hyperplasia of the mucosa proper. If we consider these cases carefully, however, it seems difficult to understand how such a notable hyperplasia should occur in this region; certainly it is difficult to understand how a catarrhal inflammation should confine itself to the subglottic larynx without involving the supra-glottic portion with the vocal cords.

In both the third and fourth cases related above, the vocal cords and supra-glottic larynx were practically healthy, and yet catarrhal inflammation of the upper air-tract almost invariably extends, by continuity of tissue, as involving the larynx, trachea, and bronchi. We are forced to the conclusion that the morbid process in subglottic laryngitis cannot be of a purely catarrhal character. The lymphatic tissues are especially developed in the neighborhood of the faucial arch, being met with here in large masses, constituting the faucial, pharyngeal, and lingual tonsils. Furthermore, as we know, they are especially liable to become the seat of hypertrophic changes in child life. Sappey [1] has shown us that in adult life the lymphatic distribution greatly diminishes as we pass downward from the faucial region, and is notably impoverished as we pass into the subglottic larynx. During adolescent life, however, this gradual diminution does not present in such a marked degree, and the subglottic larynx is the seat of a comparatively rich lymphatic distribution. It is this tissue, then, I am disposed to think, that bears the brunt of the diseased action in subglottic laryngitis, in the large majority, if not all cases, and not the mucous membrane proper. If this view be the correct one, the teaching of the cases which I have reported above seems quite clear, and the treatment of a child subject to attacks of subglottic laryngitis or catarrhal croup is removed from the domain of doubtful topical applications, counter-irritants, emetics, expectorants, and such remedies. In place of these we substitute the internal administration of iodide of iron, a remedy for which the indications are clear, and whose action is comparatively certain, provided it is administered sufficiently early in the history of the disease. This drug is undoubtedly a specific in most, if not all, of the manifestations of lymphatism in young children, if given before these lymphatic hypertrophies have become firmly established; probably in most cases, we may say, before the fifth year of life. It is ordinarily given in too small doses. To a child five years of age it may safely be given in half-drachm doses of the officinal syrup three times daily. During an acute attack it may be given in ten-drop doses every hour. In the later years of the adolescent period its efficacy, of course, is very much diminished.

In cases III. and IV., as we have seen, the subglottic swelling disappeared by the removal of the enlarged faucial lymphatics. The clinical suggestion here seems quite clear.

The point to which I would give especial emphasis in concluding this paper, is the suggestion that attacks of catarrhal croup in young children are the probable manifestations of lymphatism, which should lead us to immediately place them under the administration of the iodide of iron for the correction of the systemic dyscrasia. Certainly the propriety of administering this remedy cannot be questioned, if these children present still other evidence of lymphatism, such as hypertrophied faucial or pharyngeal tonsils. The further suggestion of the propriety of removing such lymphatic hypertrophies as may be found in the air-tract, need not be entered upon. In the third and fourth cases reported, the removal of the lingual tonsil was immediately followed by the subsidence of the subglottic swelling. Why this should occur I cannot say. The clinical fact was undoubted in each case, and it carries with it its special teaching. This of course applies to both the lingual and faucial tonsils, as well as to a pharyngeal adenoid.

26 West Forty-sixth Street.

[1] Anatomie Descriptive, vol. ii., p. 861. Paris, 1869.

SOME CLINICAL FEATURES OF A FRACTURED FEMUR.

By JAMES KENNEDY, M.D.,

San Antonio, Tex.

Fracture of the shaft of the femur, which is a common enough accident, is yet one in which it is sometimes very difficult, and maybe impossible, to form a correct conclusion as to the kind and extent of injury which the bone has received. I have recently met with two cases of this accident which presented clinical features differing sufficiently from the ordinary, I trust, to warrant publication of the reports which I herewith present, illustrated by cuts for the purpose of making clear their distinctive features.

The first case was that of a boy aged thirteen, who, while riding upon a farm wagon, managed to get his left lower extremity caught in the wheel between the spokes, in such a way that the knee engaged in the angle formed by the spoke and felloe, the leg hanging on the outer side of the wheel, while the thigh and buttock became crowded in between the wheel and wagon-bed. So tightly were the parts held thus, that it became necessary to remove the wheel in order to extricate the poor little fellow from his painful position.

I saw the patient about two hours after the accident occurred, and found the limb somewhat swollen, and marked deformity existed. The usual signs of fracture, such as unnatural mobility, crepitus, shortening, etc., were easily made out. There was evidently considerable violence done to the knee-joint, with a possible rupture of the capsule, for the articular surface of the femur was separated from the tibia by a considerable interval, as determined by palpation. Effusion into the joint occurred later. The lower fragment was directed almost antero-posteriorly, with the fractured end lying against the anterior surface of the shaft, while the upper fragment had descended into the popliteal space.

A diagnosis of transverse fracture in the lower third of the femur was made. While the patient was still under the influence of chloroform, the fracture was reduced by first bringing the lower fragment into its proper relations with the knee-joint, maintaining it there, and by extension and manipulation bringing the broken ends into apposition. A temporary splint was applied in anticipation of considerable swelling of the part, which afterward occurred, particularly at the knee. I determined to put the limb up in plaster as early as would be compatible with safety to the part.

Three days later I visited the patient (who lived out in the country), and found that displacement had occurred,

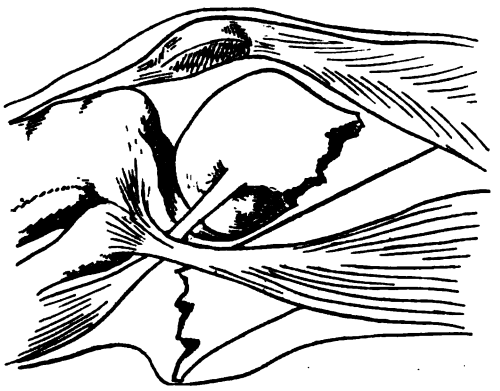


FIG. 1.—Before any Attempt was Made at Reduction.

and notwithstanding the œdema, which was considerable, I put the limb up in plaster, after having again reduced the fracture, for its more thorough immobilization.

Several days later I found, by the amount of shortening which existed, that displacement had again occurred. The limb was once more reduced (each time under chloroform), and plaster-of-Paris, combined with extension, applied.

Two weeks later I found by measurement that shortening to the extent of two inches existed. On removing the dressing and examining the limb, there was complete absence of mobility at the site of the fracture, and there appeared to be perfect continuity along the anterior surface of the shaft. Posteriorly there was a small round ulcer near the margin of the tendon of the biceps, and a hard lump was found under this and lying within the

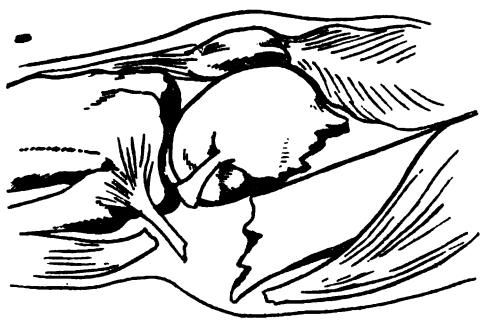


FIG. 2.—Nature's Attempt to Repair Damage.

popliteal space. The harsh grating sensation imparted to a metallic probe left no doubt as to the character of this lump. I decided to place the boy in the hospital and cut down upon the part in order to ascertain the exact condition of affairs, and resort to such measures as would contribute toward the restoration of the limb.

It was plain that, even if I left him with his two inches of shortening, the knee-joint would be useless, because flexion could not be executed so long as this mass of bone remained where it was. I made a free incision along the outer border of the tendon of the biceps, about four inches in length and extending down to the bone, separating the soft tissues and exposing the part. The hard lump in the popliteal space was nothing else than he lower end of the upper fragment; it was necrosed for about an inch, extending upward from the broken surface. The bone had broken in an oblique direction, the fragments had failed to unite, and the spasm of the muscles had forced them out of their proper relations, the obliquity of the surfaces greatly facilitating the displacement. The oblique surface of the lower fragment lay against the anterior surface of the shaft, and was bound to it by a rather firm fibrous union from which it was with difficulty separated, a bone elevator being used to tear them apart. Figure 2 represents the condition found. Figure 3 represents the parts after the operation. The dead portion of the bone was cut off and trimmed in such a way as to facilitate approximation of the surfaces. The lower fragment was freshened by scraping, the surfaces brought together and so maintained. Irrigation with bichloride of mercury, a drainage-tube inserted, the wound closed and antiseptically dressed completes the story of the operation. A useful limb, with a supple knee-joint and one inch of shortening, is a record of the result.

My second case was that of a man about thirty-eight years of age, a robust mechanic, carpenter by trade.

While employed in the construction of a two-story stone building to which there was a cellar, the supports to the second floor gave way under the pressure of several tons of stones which had been piled there for the convenience of the stone-masons, and he with eight other workmen fell from this insecure platform down into the cellar, some thirty feet below, and all of them were more or less buried beneath the débris of stones and timber.

When I first saw the patient his lower extremities were

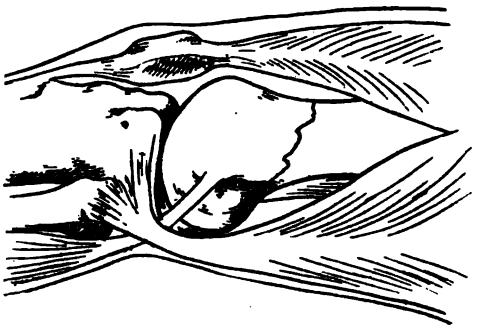


FIG. 3.—Results of Operation.

more or less completely buried in a mass of huge stones which reached as high as his girth. His escape from instantaneous death was almost miraculous, for only a few feet from him lay the lifeless remains of a Mexican laborer crushed almost to a pulp. The vigorous use of a crowbar was required to remove the massive rocks that were piled upon the unfortunate man's extremities. I fully expected to find both of his lower limbs in such a mangled condition as to make a double hip-joint amputation an imperative necessity. In this, however, I was most fortunately disappointed, for the only injury his extremities sustained was a fracture of the shaft of one thigh-bone (right); and I may here add that with the exception of his back being badly bruised, his nose broken, and his face slightly lacerated, no other injury was sustained.

I had him removed at once to the hospital, and there, with the assistance of three other physicians, anæsthetized the patient and examined the limb. This examination proved very unsatisfactory, both on account of the great development of the muscles and the frequent involuntary contractions which occurred, even during profound anæsthesia.

A diagnosis of a simple transverse fracture of the femur at the junction of the middle and upper third of the shaft was made, but I could not fully concur in this, although I could not elicit any certain evidence to the contrary.

That which caused me to doubt the correctness of the diagnosis of my confrères was the ease with which the opposed surfaces of the fragments appeared to glide upon each other after reduction had been effected, and gave

the impression that they did not perfectly approximate during complete relaxation. However, it was decided to approximate the fragments as perfectly as possible, immobilize, and apply extension.

In a few days it was found that displacement had occurred, as evidenced by the four inches of shortening which had taken place, notwithstanding the twenty pounds of extension weight. Chloroform was administered and the fragments again brought into apposition, and plaster of Paris combined with extension applied and left for a week. At the end of this time the limb was measured and found to be three inches shorter than its fellow, which of course meant that displacement had again occurred. The apparatus was removed and the thigh examined. The fragments were found overlapping laterally. I concluded to cut down upon the part as I had done in the preceding case, discover the true condition, and proceed according to the indications thereafter. An incision of about six inches in length was made through the vastus externus muscle, and the injured bone freely exposed. The fragments were found overlapping, the lower one riding the external surface of the upper, and a callous-like material thrown out around the broken ends of the bone. Several comminutions were discovered. The comminuted fragments were completely enveloped in this new formation, and were removed with difficulty. They did not closely approach each other or the main fragments. The lower fragment was drawn out through the wound and exsected. This procedure made the comminutions accessible, and they were withdrawn. The upper fragment, on account of its shortness and the close relation to the hip-joint, was exsected with some difficulty. The fracture was comminuted and *not transverse;* the larger comminution split obliquely both upward and downward from the fractured shaft, extending farther along the upper than the lower fragment. The exsection of this was done at a point which represented but two-thirds of the circumference of the shaft. The object of making the section at this place was to secure the minimum of shortening, and at the same time to leave the bone of sufficient thickness for the support of the body weight and for locomotion. The fragments were then brought together and held with their freshened ends opposed, by means of silver wire passed through both pieces and the ends fastened together. The usual antiseptic precautions were taken throughout. It is now ten weeks since the operation. The limb is two and three-fourths inches shorter than the one of the opposite side, the fragments have united quite firmly, and the patient can sustain almost his entire weight upon the limb without accident or discomfort.

In cases of fracture of the shaft of the femur occurring in individuals in whom the muscles are flabby or but moderately developed, and who possess but a moderate amount of adipose tissue, mistakes as to the exact character of the injury, I presume, will rarely be made if the examination be conducted during anæsthesia. But on the other hand, when the muscles are powerfully developed, or when there is much œdema, or the patient is very obese, it may be quite impossible to determine accurately the character of lesion which the bone has sustained.

A word with reference to shortening in cases of fracture of the thigh, while having no bearing whatever upon the cases herein reported—as they do not represent this feature in its usual relation to this injury—may still not be irrelevant. Since the vast majority of complete fractures are more or less oblique, it seems to me that this fact furnishes the key to the solution of this question, and shows the necessity of neutralizing the spasm of the muscles by a sufficiency of extension properly applied. It is easy to perceive with even a slight obliquity how partial or complete displacement is greatly favored. The oblique surfaces representing inclined planes offer, of course, much less resistance than flat surfaces. I do not underestimate the value of immobilization, but merely suggest that in many cases this is impossible without the aid of adequate extension. It is quite probable that in those cases where manifest shortening (a half-inch or over) occurs, that the fragments have united in a partially displaced condition. In a certain proportion of cases this may be due to imperfect reduction, but it is my opinion that, in the majority of cases, it is the result of a partial displacement produced by muscular spasm, and directly attributable to inefficien extension.

Thes hortening due to imperfect reduction ought to be detected by carefully measuring the limb after setting it, whereas the shortening due to partial displacement after reduction, where insufficient extension has been applied, occurs slowly, and unless the limb be measured not only at the time it is set, but daily for a few days afterward, a considerable amount of remediable shortening may escape detection until it is too late to correct it.

Referring again to the case of the little boy, it will be remembered that the lower end of the upper fragment was, at the time of the operation, found to be increased for about an inch. This fact appears to me to have a special significance, since it does not seem reasonable that, with no serious damage to soft structures, this portion of the bone could have been killed by the injury. I believe that if we could have succeeded in keeping the fragments in apposition, they would have united in the way usual to fractures, and no death of bone would have occurred. Nature, it seems, had no use for this portion of the bone, and attempted to get rid of it by starving it to death, and directed the energies of nutrition toward the union she sought to establish, and with which I interfered, it is to be hoped, for the greater benefit of the patient.

NOTES ON THE THERAPEUTICS OF CROUPOUS PNEUMONIA.[1]

By H. L. JENCKES, M.D.,

HAZEL GREEN, WIS.

THE writer will not occupy time by referring to the history or the etiology of croupous pneumonia; these can be found in any of the late text-books. It is also impossible to go over the whole field indicated by the title I have chosen for this paper. The different varieties of pneumonia will not be touched upon, and mention will only be made of some of the more recent remedies which have been employed and advocated as markedly beneficial in the treatment of this disease. Pneumonia is generally easily recognized by the initiatory chill, the pain, prostration, and cough. The temperature is elevated, and the expectoration is streaked with blood. Breathing is not only difficult but rapid. The pulse in severe cases may be small and weak, but this is chiefly because the left heart does not receive enough blood from the lungs to fill its chambers and to distend the arteries. There is dulness on percussion over the inflamed lung, and auscultation frequently reveals fine crepitant râles.

Numerous and various have been the means employed to cure or abort this inflamed and engorged condition of the lungs. The treatment was sanguinary and heroic prior to 1850, but since that time it has been expectant, symptomatic, or specific; this last, or specific treatment, being based on the existing knowledge of germs and their relation to the production of disease. Yet in a careful review[2] of one thousand cases of pneumonia treated in the Massachusetts General Hospital from 1822 to 1890 Drs. Townson and Corledge conclude that the mortality has remained the same under the various methods of treatment which were employed, and that treatment has not influenced the duration of the disease nor its convalescence.

Certain facts, however, regarding its natural history, its tendency in the majority of cases to recovery, and the occurence of crisis or lysis at any time from the fifth to the tenth day have been fully established.

[1] Read before the Dubuque, Ia., Medical Society, June 16, 1891.
[2] The Year-Book of Treatment, 1891.

Among the able contributions on the treatment of pneumonia which appeared during 1890, mention may be made of that of Drs. Sturges and Coupland.[1] Recognizing a natural tendency of the disease to recovery, they discard all thoughts of a specific for pneumonia, and limit the treatment to the control of certain symptoms, such as the alleviation of pain by opium or some of its derivatives, and the securing of sleep by some of the hypnotics, especially by chloral. The control of temperature when high is often a difficult task. Clinical experience has proven that the so-called antipyretics are unsafe on account of the cardiac depression they produce. And in a disease like pneumonia, where there is great pulmonary and venous engorgement, it seems not only necessary but imperative to sustain the action of the heart, and also to relieve the engorgement of the venous system. Sponging the surface with cool or tepid water is generally grateful to the patient, although the temperature is but slightly affected.

With the application of ice to the affected side I have had no experience. The benefit, if any, which results from this is owing probably to the general reduction of the fever and not to any specific influence it has over the localized inflammation. I am inclined to attribute an antipyretic effect to calomel when given in this disease. I have repeatedly seen a fall of one or two degrees after the thorough action of a couple of three- or four-grain doses of the submuriate of mercury. The contents of the bowels are swept out, together with a quantity of bile; in fact, the biliousness so generally present is relieved. The coating upon the tongue begins to disappear, and the heat and dryness of the surface is replaced by a refreshing moisture.

Returning now to a remedy which of late has been advocated as having a destructive, or at least an inhibitory, action on the pneumococcus. This is ethyl iodide. For the action and effect of this remedy I am indebted to an article[2] by Professor Bartholow, who in writing on this subject says: "The influence exerted by it on the cough, the labored breathing, and the general *malaise* is a remarkable fact. It has the single advantage that no apparatus is required, it vaporizes at ordinary temperature, it causes no irritation of the mucous membrane, and it does not act as an anæsthetic. The cases in which it was used were all apparently much benefited by its inhalation, and all expressed a sense of relief to the general *malaise*, and to the specific symptoms—cough, bronchial irritation, and expectoration—the last mentioned being soon changed in character and in quantity."

In the few cases in which I have had patients inhale this remedy, it has sustained the statements made for it by the distinguished writer whose article has been referred to. In studying the pathology of this disease we find from the hepatized and engorged condition of the lungs that there is great obstruction to the pulmonary circulation, and greater amount of work is necessarily demanded of the right heart. As the blood accumulates and distends the venous system there is a corresponding depletion of the arterial system. The rational indications for therapeutical interference would then be to relieve the engorged lung, to restore the equilibrium of the circulation by transposing a quantity of venous blood to the arterial system, and finally to sustain the action of the heart.

This brings us to a very able paper "On Acute Obstructive Diseases of the Lungs," read by Dr. Andrew H. Smith at the Tenth International Medical Congress, In this paper[3] the writer forcibly expresses the indications for treatment when he says: "Increasing obstruction with decreasing right heart power means death; decreasing obstruction with sustained right heart power gives promise of recovery. It is a question with which the left heart has almost nothing to do, for the peril is not from general exhaustion, as, for example, in fever, nor from failure of the heart as a whole, as in some cases of infection; but specifically from tiring out of the right heart in its effort to unload the venous circulation through the obstructed vessels of the lungs."

The logical conclusion to be drawn from this is to administer remedies that relax the arterial system, and by increasing its capacity we relieve the veins proportionately; and by diminishing the venous engorgement we relieve the respiration and lighten the labor of the right heart. Among remedies that relax the arteries may be mentioned aconite, alcohol, and especially the nitrites of sodium or potassium. And regarding nitro-glycerine, which also possesses this property, Dr. Smith says: "Again and again I have seen a patient with pneumonia somnolent, or even comatose, with the face gray, the lips livid, the respiration superficial and from 50 to 60 per minute, and the chest everywhere full of moist râles, but nevertheless rescued from this apparently hopeless condition by drop doses of a one per cent. solution of nitro-glycerine administered every fifteen or thirty minutes."

In an editorial comment on this paper which appeared in the MEDICAL RECORD[1] the writer, after a short discussion of the paper, says: "Dr. Smith's contribution to the therapeutics of pneumonia is the best that has been made for years, yet he makes no allusion to antipyretics or baths." The inhalation of oxygen certainly gives the patient that element of the air which he particularly needs in all cases of obstruction to the respiration, and in all grave cases can be given with benefit. Digitalis, which is so frequently given in this disease, is mentioned only to be condemned. Nor is Dr. Smith alone in this opinion, for Loomis says that in pneumonia digitalis does more harm than good. By its powerful action on the left ventricle a still greater quantity of blood is forced into the already overloaded venous system, thereby defeating one of the main conditions aimed at in treatment, the relief of the pulmonary and venous engorgement and the equalization of the circulation.

In summarizing the conclusions to be drawn from this brief paper we would say:

In the beginning of an attack of pneumonia, and especially when biliousness is present, marked benefit will be experienced by the administration of a few small doses of calomel. Let ethyl iodide be freely inhaled, not only for its supposed specific effect upon the pneumococcus, but also because of the relief it affords the pulmonary symptoms. In all severe and particularly grave cases with the free use of alcohol let the patient also receive the nitrite of sodium or a one per cent. solution of nitro-glycerine. Should these fail in their intended action to relieve the embarrassed circulation, and the patient being robust and plethoric, he may be carried over a critical period by the abstraction of twelve or sixteen ounces of blood.

The Medical Profession in Austria.—According to official statistics which have recently been published, the total number of medical men in Austria at the end of 1889 was 7,146, of whom 5,358 were Doctors of Medicine and 1,788 practitioners of a lower grade (*Wundärzte*, surgeons). The proportion of doctors to population was highest in the district of Trieste, where it was 61.7 per 100,000, Lower Austria being second with a very slightly lower ratio, and the Tyrol and Vorarlberg coming next at no great distance. In the other provinces the proportion was much smaller, being about thirty per 100,000 in Salzburg and Steiermark, and falling as low as 5.9 in Krain, 3.7 in Bukowina, and 3.2 in Galicia. As might be expected, the Doctors of Medicine most do congregate in the large towns, while the lower-grade practitioners most affect the villages and rural districts. About twenty-one per cent. of the Doctors of Medicine practise in Vienna.—*British Medical Journal.*

[1] The Natural History and Relations of Pneumonia.
[2] The American Journal of the Medical Sciences, November, 1890.
[3] Ibid., October, 1890.

[1] The Rational Treatment of Pneumonia, MEDICAL RECORD, December 27, 1890.

THE USE OF THE ELECTRO-MAGNET TO EXTRACT BURIED PARTICLES OF IRON OR STEEL FROM THE TISSUES.

By CHARLES CLIFFORD BARROWS, M.D.,

NEW YORK.

The use of the magnet for the purpose of extracting small fragments of needle buried in the tissues has been suggested by most writers on surgical subjects. It has, however, rarely been applied with success because the ordinary magnet has not power enough to exert much influence over so minute a particle of steel when this lies deeply buried in the muscles or cellular tissue. Small pieces of fine needles thus embedded are at times extremely difficult to locate accurately, and still more difficult to extract, except by a cutting operation altogether out of proportion in magnitude to the object sought.

It is always desirable to extract foreign bodies of this kind, because if left to themselves their tendency is to travel more deeply into the tissues and to give rise frequently to serious trouble, such, for instance, as necrosis of the bones dependent on periostitis provoked by the presence of such an irritant.

In illustration of the advantage of the electro-magnet for the purpose of extracting from the tissues foreign bodies of this character the following case serves a good purpose:

On September 4th, Mrs. B——brought her little daughter, Margaret, down from her country place on the Hudson, to consult me about the removal of a piece of cambric needle from the child's right thumb. On the day previous to her coming to me she had broken off in the ball of her right thumb about an eighth of an inch of the length of a fine sewing-needle. The child had attempted to extract it herself with the point of a pair of scissors, but had only succeeded in driving it deeper into the tissues. She was then taken to the local physician, who attempted to remove the fragment, but without success. At his suggestion poultices were applied to the thumb to draw the needle out. As the needle declined to be drawn out by the poultices, on the following day the mother brought the child to me.

On examination I was able to locate the needle by the sensation of pain it produced on pressure over the point of entrance, which had been considerably enlarged by the various efforts at extraction. I could not, however, reach it or seize it with the finest-pointed forceps. The repeated attempts at extraction had made the thumb very tender, and had well-nigh exhausted the child's patience.

I then determined to try the effect of a very powerful electro-magnet, feeling sure that no ordinary magnet would have the slightest effect on so minute a particle of steel so deeply sunken in the muscles of the thumb. I took the child into the office of the Edison Electric Company, which happens to be near my office.

Mr. Hadley, the manager, very kindly connected up for me a very powerful electric motor, and permitted me to use the electro-magnet which constitutes a part of the machine. By placing the child's thumb against the pole of the magnet, and gently kneading the tissues, the fragment of needle was drawn up so that it could be felt with a sharp-pointed instrument in the bottom of the small wound. A piece of soft iron with a sharp point was then placed in contact with the pole of the powerful electro-magnet, thus be-magnetized, and the point was brought into apposition with the end of the piece of needle, bringing the fragment with it as it was withdrawn. This procedure was entirely painless.

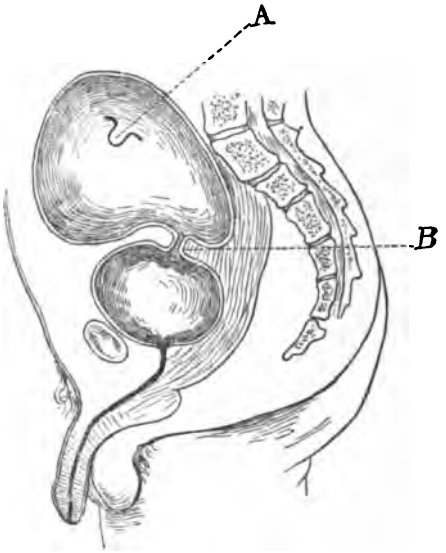
An Ohio Doctor, who had worked hundreds of cures with his liver medicine, owned up the other day when dying that his "remedy" was of no earthly good in a real case, but that he simply worked on the imagination. He says a man who won't believe in anything else will believe that his liver is out of order.—*Times ana Register.*

CONGENITAL MALFORMATION—ATRESIA ANI-VESICALIS, WITH AN ANATOMICAL PECULIARITY NOT HERETOFORE DESCRIBED.

By J. M. SLIGH, M.D.,

GRANITE, MONT.

On August 29, 1891, I delivered Mrs. L. J. F—— of a male child weighing eight pounds, and apparently healthy. On the evening of August 30th the nurse reported that the child's bowels had not moved, and I directed her to administer an enema. The following morning the father came to my office saying the nurse could not give the enema, as she could find no opening



to the bowel. Going to the house and examining the child I found a case of imperforate anus, upon which I operated at once by a crucial incision between the base of the scrotum and the coccyx, carefully dissecting between the bladder and sacrum for a distance of two and one-fourth inches without finding any rectum. I advised the father that it was useless to explore further, and that the child must die or take its chances of living through a laparo-colotomy, which latter proceeding he declined. The next day the nurse informed me that the child's urine was high-colored, thick, and smelled like a passage from the bowels, when I was satisfied that it was a case of atresia ani-vesicalis. From this time the child vomited frequently, and died on the night of September 3, 1891.

On the morning of September 4th I made a post-mortem examination. The abdomen was largely distended. Upon going through the peritoneum, there presented in the wound a body which nearly filled the abdominal cavity, and which I was at a loss to account for, but which I supposed might be an enormously distended stomach or bladder. Getting it out of the abdomen I was enabled to find the stomach and bladder in proper positions, and normal in appearance, except that the bladder was considerably distended. The small intestines, ascending and transverse colon were normal, but there was no descending colon or rectum. Where the descending colon should have been was a large sac or pouch into which opened the transverse colon by a valvular orifice somewhat smaller in diameter than the transverse colon, and which was the strange body that first presented in the wound. This sac or pouch was filled with semi-liquid fæces, and was the cause of the abdominal distention, its capacity being at least three fluid ounces. Its only attachments were at the opening into it of the transverse colon and a counter-opening from it into the posterior aspect of the fundus of the bladder, through a tube one-half inch in length with a lumen of about one-tenth inch diameter. The walls of this pouch were thick, and its mucous surface was thrown into small folds, or rugæ, presenting somewhat the appearance of an hypertrophied

adult bladder. The distention of the bladder was caused by the presence in it of fæces, differing only from those in the pouch by being somewhat thinner and lighter in color, due to admixture of urine.

This case differs from any other kind of this character of malformation I have ever seen, in the fact that the descending colon and rectum were absent, being replaced by a large pouch with very thick walls and its mucous membrane thrown into rugæ or folds. The anus is absent, and the transverse colon has a valvular opening, *A*, into a sac or pouch of about three ounces capacity, this in turn opening into fundus of bladder, on posterior side, through a duct half an inch in length, and one-tenth inch in diameter, *B*.

Clinical Department.

SOME ABNORMAL EYE SYMPTOMS AS A DIAGNOSTIC AID TO OTHER DISEASES.[1]

By RICHARD H. SATTERLEE, M.D.,
NEW YORK.

Attention to the eye symptoms will often result in a physician looking for other signs, and this may lead to the detection of a state of affairs hitherto unsuspected.

Œdema of the lids is often the first thing noted in the examination of a patient. This may mean conjunctivitis, a premonitory symptom of coryza, the simple fevers, hay fever, arsenical poisoning, some lesion of the heart, lungs, or kidneys. When administering arsenic this œdema is a valuable sign as showing that the drug is being given in excess of the bodily powers to eliminate.

Styes show an anæmic or strumous condition, or derangement of the digestive apparatus or organs of reproduction. They are also found in certain forms of eye strain. The same conditions that produce styes may cause that chronic inflamed condition of the lids termed blepharitis marginalis.

Ptosis, while due to inflammation of the lids, tumors, or erysipelas, is also frequently indicative of brain lesion with paralysis of the third nerve.

Blepharospasm may occur during mental excitement or an epileptic seizure; it may also be found in chorea and hysteria.

Marked protrusion of one eye would probably mean a new-growth in the orbit, of both eyes exophthalmic goitre. Inability to move the eye outward would lead one to suspect paralysis of the sixth nerve. Paralysis of the sixth with hemiplegia of the opposite side points to a lesion at the pons Varolii—usually on the same side as the eye affected.

The fixed stare of some forms of hysteria and insanity are well known; also the rolling of the eyes during convulsions and approaching dissolution.

The cornea and conjunctiva are often red and injected, or have a peculiar appearance. In diphtheria the membrane sometimes forms here, though rarely. The reddish appearance in hay fever, scarlet fever, measles, and from an overdose of the iodides is familiar to all of us. Phlyctenules show a depraved condition of the system and improper diet. Painless ulcers on the cornea generally indicate a lesion of the fifth nerve. In jaundice the conjunctiva becomes of a brownish hue, in Addison's disease it looks lustreless and dark-colored.

Arcus senilis in the young or middle-aged is often an accompaniment of fatty heart or fatty degeneration of other organs.

Nystagmus—that rapid involuntary movement of the eyes—is a sign of third- or sixth-nerve paralysis, or a premonitory symptom of disseminated sclerosis. It is also found where the eyes are of unequal refraction.

The pupil should be carefully watched. It is dilated in hysteria, hypochondria, lead-poisoning, hydrocephalus, paralysis of the third nerve, reflex irritation from seat worms, and after the administration of large doses of the following drugs: aconite, salicylic acid, strychnia, belladonna, cannabis indica, conium, duboisia, digitalis, ergot, hyoscyamus, quinine, lobelia, pulsatilla, veratrum viride, santonin, stramonium, nitrite of amyl, and gelsemium. The dilated pupil during chloroform narcosis is a danger signal.

The pupil is contracted in all early stages of brain disease, cholera, intracranial tumors, cerebral apoplexy, and all lesions of the brain or spinal cord above the dorsal vertebræ. Opium, jaborandi, tobacco, physostigma, carbolic acid, calibar bean, and chloral hydrate all contract the pupil when given in large doses. The pupils being of unequal size is almost certain to be a precursory sign of insanity. If the pupil does not react properly, and the iris is slightly altered in color, you have an iritis of syphilitic, rheumatic, or gouty origin. Post-partum or any other severe hemorrhage may be followed in from two to fifteen days by loss of eyesight, which is not usually regained.

Subjective Symptoms.—The patient complaining of the eyes becoming easily fatigued may be the first symptom calling your attention to a general anæmic condition. If complaint is made of only seeing half an object, look for beginning paralysis with a lesion or tumor of the brain.

In many cases of parametritis and pelvic cellulitis the eyes are easily fatigued, accompanied by orbital pain and more or less sensitiveness to artificial light.

In spinal disease the patient is apt to have diplopia, photophobia, muscæ volitantes, and undue retention of after images.

Loss of accommodation is often present in pathological irritation of the dental branch of the trigeminus, a spur on the nasal septum, intestinal irritation from worms, diseases of the stomach, liver, or intestines, and during convalescence from diphtheria.

[1] Read before the Easton (Pa.) Medical Society, October, 1891.

A LARGE DOSE OF PARALDEHYDE.

By J. NOER, M.D.,
STOUGHTON, WIS.

On August 18, 1891, at about 6 P.M., while on my way home for supper, I was accosted by one J. H——, who desired me to give him something to put him to sleep. He declared that he had not slept for ten days. Knowing him to be a man who was very much addicted to the use of liquor, I concluded that he was on the verge of delirium tremens. I handed him the following prescription:

℞. Paraldehyde..... gm. 10
Syr. aurantii cort..... gm. 30
M. S.: Shake bottle and take one teaspoonful every half hour till sleep is produced.

At 9 P.M. same day the druggist called on me with the bottle which had contained the above mixture, desiring to know if it would be safe to refill, patient having sent down for another bottleful. I of course replied no, and started for the home of my reckless patient.

I found him in bed, wide awake, and in a very happy frame of mind. He had taken the whole amount at once, he said, but added that he thought he needed about a quart more.

Aside from a slight delirious tendency and a little quickening of the pulse, the paraldehyde had produced no visible effects. I gave him three grammes pot. brom. in water, and left two powders of the same, containing one and one-half gramme each, to be given one every hour if not quiet; next morning I found him calm and rational. He had taken all the bromide, after which about two hours' sleep had been obtained. His breath smelt very strongly of paraldehyde, but in every other way he was apparently in a much better condition than in the evening before taking the medicine. As the maximum dose of paraldehyde is four grammes, or one drachm, I thought the case worthy of consideration as showing an unusual toleration of the drug.

INCESSANT HICCOUGH RELIEVED BY LAVAGE OF THE STOMACH.

By EVERETT J. BROWN, M.D.,
DECATUR, ILL.

READING in the daily press lately several accounts of a most persistent case of hiccough which had lasted many days and which was baffling the skill of the local medical fraternity, recalls to my mind a case of the same trouble which came under my care while a resident physician in Cook County Hospital, Chicago, of which case I find I have complete notes:

S. S——, a Russian peddler, aged twenty-seven, admitted to hospital April 30, 1888. Had always been in good health; on admission complained only of a persistent and incessant hiccough, which continued night and day; it had already lasted one week; he was thoroughly exhausted from loss of sleep and the pain and soreness produced by the constant contractions of the diaphragm; the usual remedies for these cases, such as morphine, bromide and chloral, ether, cannabis indica, bismuth, soda, and atropine, were each tried, but with little or no effect; morphine in large doses would relieve for one or two hours and allow the patient some sleep; electricity applied to the epigastrium and to the phrenic nerve was of no avail.

On examination over the region of the stomach that organ was found to be considerably dilated and to contain a large quantity of fluid; there were no external signs of a tumor or other pyloric obstruction; thinking that the dilatation of the stomach and the retention of fermenting food might be a cause of the hiccough I introduced a siphon-tube into the stomach and thoroughly washed out that organ; at least two quarts more of fluid were removed than had been introduced through the tube, and that which was removed was in a high state of fermentation. After this operation the hiccough entirely ceased and the patient had his first good night's sleep in sixteen days. He was discharged two days later with no return of the trouble.

THE VARIABLENESS OF ASTIGMATISM FROM CATARACT OPERATIONS.

By S. MITCHELL, M.D.,
HORNELLSVILLE, N. Y.

I THINK all who have had any experience with the astigmatism that is produced by cataract operations, have come to the conclusion that such astigmatism is not, like the law of the Medes and Persians, changeless, but, on the other hand, is exceedingly prone to variations. However, I never consider that I have assisted my cataract patients to the very best vision attainable until I have tried cylindrical lenses, and always prescribe them when an improvement is to be gained thereby.

In my experience, I find that the majority of eyes are, by the operation, made astigmatic for a time, and by far the greater part of these require the axis of the cylindrical lens to be placed horizontal or approximating to it.

The following case illustrates this variation in a very marked manner:

Mathew W——, aged seventy-nine, an Irish gentleman from a neighboring town, had his left eye operated upon for cataract by me, March 20, 1890. I was obliged to perform iridectomy on account of the unyielding condition of the iris.

The eye did nicely, and my patient returned to his home ten days later with $\frac{20}{100}$ vision. I did not attempt to fit a glass at this time, as he had $\frac{1}{10}$ vision in the right eye, which had been operated upon by Dr. Hubbel, of Buffalo, one year previous.

Five weeks later, V. L. E. with + 8 D. + 5.50 D. cyl. axis 180° = $\frac{20}{30}$. I did not order this glass, but thought best to wait a short time before so doing.

Six weeks later, V. L. E. with + 10 D. + 2.75 D. cyl. axis 180° = $\frac{20}{20}$. This glass has been worn with perfect satisfaction until very recently, when my old friend again called on me, and speaking of his eyes, which he facetiously designated as his "Buffalo eye" and his "Hornellsville eye," he informed me that he was not seeing as well as formerly with his "Hornellsville eye." I now found that V. L. E. was $\frac{20}{100}$ with the glass he had been wearing, but with + $\frac{1}{10}$ D. spherical it was raised to $\frac{20}{30}$ (—), thus showing a variation in the refraction of the eye that to me was quite remarkable.

OFFENSIVE LOCHIA DUE TO LACERATION OF THE UTERINE AND VAGINAL TISSUES, WITH NO RISE IN TEMPERATURE.

By C. S. SCOFIELD, M.D.,
BOSTON, MASS.

IN the MEDICAL RECORD of September 12th, under the heading of "Fetor of Lochial Discharges," Dr. Baxall states that it may occur with or without a rise in temperature. About two weeks ago I attended in confinement Mrs. R——, primipara, nineteen years of age. The labor was normal, except that the second stage was protracted by reason of rigidity of the perineum. Fortunately, however, after considerable delay delivery was accomplished and the uterus was emptied of placenta and membranes, with no tear in the perineum. On visiting my patient the following day, the nurse called my attention to the fetor of the lochia. There was no rise in temperature except on the third day, when milk first appeared, and although the odor continued until the ninth day, Mrs. R—— experienced no trouble from it and made a good recovery. This case supports the statement of Dr. Baxall, that fetor may be due to lacerated tissues, and may occur with no rise in temperature.

I will also state that I directed the nurse (one of experience) to give antiseptic vaginal injections three times daily, and to apply antiseptic pads to the vulva after each injection. I have had great faith in the injections and pads since I first used them, in the summer of 1882, while attending an out-patient of the Boston Lying-in Hospital, a report of which I sent to the Hospital at the time. The case developed puerperal fever, and to get rid of the offensive odor of the lochia I gave hot carbolized vaginal injections, and had napkins wrung out of the solution and applied to the vulva, keeping them in place with a dry one pinned in front and back to the bandage. The odor entirely disappeared in a short time, the temperature went down, and the woman made a good recovery. Had I reported the case to one of the medical journals, I think it would have been the first reported case of antiseptic pads so used in obstetrics.

Lumbago and Lumbar Sprain.—In an article contrasting these two conditions, published in the *University Medical Magazine* for November, 1891, Dr. S. W. Latta gives the following table of the diagnostic differences:

Lumbago.	*Lumbar Sprain.*
Duration, five to ten days.	Duration, fourteen to twenty-eight days.
Onset, sudden.	Onset, instantaneous.
Cause: Predisposition; rheumatic or gouty diathesis; exposure to cold and wet; overfatigue or slight strain of muscles in one having a predisposition.	Cause: Injury by twist, fall, direct force, or from overlifting.
Pain: Tearing or aching, confined to a single or group of muscles; aggravated by movement.	Pain: Acute, lancinating, and diffused; slight movement causes agony.
No outward signs.	Local heat, swelling, ecchymosis, and discoloration.
Rarely painful to touch; pinching affected muscle may elicit pain.	Excessive local tenderness.
No particular decubitus.	Decubitus on *either* side, with knees drawn up toward chin.
Heat aggravates.	Heat is grateful.
Constitutional symptoms not common.	Constitutional symptoms nearly always present.

Progress of Medical Science.

The Simultaneous Existence of Two Substances in Cultures of Staphylococcus Pyogenes. — Drs. Rodet and Courmont presented a note at the Académie des Sciences on the simultaneous existence in the cultures of staphylococcus pyogenes of a vaccinating substance precipitable by alcohol, and of a predisposing substance soluble in alcohol. The effect of the vaccinating substance is completely masked in filtered cultures by that of the predisposing substance. Heating for twenty-four hours at a temperature of 55° C. may make it appear. The indication is thus given to attempt the isolation of a vaccine from the soluble products of a pathogenic microbe which does not appear to fabricate one normally.—*La France Médicale.*

Meningo-Myelitis of Gonorrhœal Origin.—Meningomyelitis of blennorrhagic origin was first studied by Hayem and Parmentier, who observed and published two cases. Charcot and Jarochewky have each observed a case since this time. Charcot, contrary to the opinion of the earlier observers, looks upon the affection as indirect, that is to say, that the medullary symptoms are only the consequence of irritation of the nerve-terminations in the articulations which are affected with the gonorrhœal arthritis. Dr. Polozoff relates an instance of this rare and interesting condition in the *Roussk Medyc.*, No. 17, 1891, in which the medullary symptoms came on in the absence of any gonorrhœal arthritis. A soldier, six weeks after an acute gonorrhœa, entered the hospital, complaining of weakness in the lower limbs, painful sensations, retention of urine, and constipation. Examination showed a paralysis of the limbs, accompanied by difficulty in walking, and trembling. The lower lumbar vertebræ were painful on pressure, complete anæsthesia was present on both sides, and paræsthesia was also present, along with fulgurant pains. The knee-reflexes were exaggerated. Temperature, normal. This state continued for twelve days. Constipation gave way slowly to injections and purgatives. Micturition remained difficult, and the catheter had to be passed daily.

At this time the temperature rose, the pains became more severe, hyperæsthesia of the skin of the abdomen and lower extremities came on, and a sense of constriction about the waist was complained of in the region of the affected lumbar vertebræ. A month after admission there were tonic convulsions of the muscles of the lower limbs. Obstinate constipation persisted. After two months, atrophy of the muscles of the legs was followed by paralytic phenomena more pronounced. In order to walk the patient was obliged to raise the limbs with his hands, and each time the sole touched the ground the muscles of the legs became the seat of clonic convulsions, and the patient was obliged to rest against some object to prevent falling. The only etiological cause was the gonorrhœa.—*La France Médicale.*

Transformation of Virus.—Dr. Chauveau concludes a work on this subject, read at the Paris Academy of Medicine, as follows: 1. Vaccinal virus never gives variola to man. 2. Variola virus never gives vaccinia to the cow or horse. 3. Vaccinia is hence not attenuated variola and cannot be compared to benign anthrax infection communicated to animals by the inoculation of attenuated anthrax virus. 4. If vaccinia is derived from variola it is by means of a radical transformation of the variola virus, up to the present time beyond the knowledge of experimenters. 5. The attenuation of virus is not an operation that can be identified with transformation.—*Gazette des Hôpitaux.*

Early Operation in Acute Peritonitis.—Dr. Lydston formulates his views on acute peritonitis as follows: 1. I do not believe in the existence of acute idiopathic primary peritonitis. 2. The majority of cases of so-called idiopathic peritonitis in children will be found, upon inquiry, to be traumatic. 3. Slight injuries of the abdominal contents are relatively more dangerous in children than in adults. 4. Acute peritonitis in children, while apparently idiopathic, is often secondary to perityphlitic inflammation, which runs a rapid course and extends to the general peritoneum without the intervention of appreciable local changes. 5. The profound prostration and cardiac inhibition characteristic of peritonitis are in a great measure incidental, (1) to tension of the peritoneum produced by inflammatory products, with a consequent reflex inhibition of the heart, and (2) mechanical interference with the heart's action. 6. Surgical interference is indicated in all severe cases of general peritonitis, and in cases of localized suppurative inflammation, or in cases of perityphlitic origin, whether due to foreign bodies or not. 7. There is every indication present for operation, and no logical objection to it. The operation is almost invariably palliative, if not curative. 8. Operation in no sense impairs the chances of recovery. *Per contra*, it enhances them to a great degree. 9. No case should be allowed to die without operation, unless already *in articulo mortis*. 10. It is not necessary to make a large incision, excepting in cases in which perityphlitic abscess is known to exist, which is rarely the case in children. If perityphlitic abscess exist and is recognized before operation, the incision should be made at the most favorable point, which, in the majority of cases, is the typical line for ligation of the common iliac, as pointed out by Murphy and Lee. In by far the majority of cases in children a simple median exploratory incision, with flushing of the abdominal cavity, is sufficient.—*Western Medical Reporter.*

The Praise of Drunkenness.—Dr. George Foy sends to the *Medical Press and Circular* the following letter, which ought to be of extreme interest in connection with the present agitation on the subject of drinking. Dr. Foy writes: "As an evidence of the altered social habits of the general public, I wish to bring a curious old volume under the notice of your readers. It was printed for E. Curl, against Catherine Street, in the Strand, London, in 1723, and is marked 'Price Five Shilling.' The title is as follows: 'Ebrietatis Encomium, or the Praise of Drunkenness; wherein is authentically and most evidently proved, the NECESSITY of frequently GETTING DRUNK; and, that the PRACTICE of getting DRUNK is most ANTIENT, PRIMITIVE, and CATHOLIC. Confirmed BY THE EXAMPLE of *Heathens, Turks, Infidels, Primitive Christians, Saints, Popes, Bishops, Doctors, Philosophers, Poets, Freemasons*, and other *Men of* LEARNING *in all Ages*. By Boniface Oinophilus, de Monte Fiascone, A.B.C.'

'Vinum retificans cor hominis,
Narratur et Prisci Catories,
Sæpe mero caluisse virtus.'—HORAT.

"The author lays down the following rules for getting drunk, to wit: 1. Not too often. 2. In good company. 3. With good wine. 4. At convenient times. 5. Force no one to drink. 6. Do not push drunkenness too far. The volume ends with a postscript by F. Sans-Terre, dated May 1, 1723, '*From my Garret in* Bandy-legged Walk.' A year made memorable by the death of 'Vanessa.'"

Cocaine in the Urethra.—Dr. E. R. Palmer, of Louisville, referring to an item in a recent issue of the MEDICAL RECORD, to the effect that the use of cocaine in the urethra is attended with more risk than in any other part, and that it should be positively forbidden in the recently cut or denuded urethra, writes: "I have used cocaine, in four per cent. solution, in the male urethra daily—frequently a dozen times daily—since 1886. Numbers of these cases have been those in which internal urethrotomy had been done the day before, and I have never seen the slightest ill-effects from its use. My solutions are carefully prepared by my assistant in my own laboratory, and from the best cocaine muriate."

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THE TONSILS AS GUARD-HOUSES.

IT is sometimes amusing to witness the efforts of well-meaning men to make plain to the lay mind the *rôle* of bacteria in disease, and to read the articles in lay journals in which some of the facts, and supposed facts, of bacteriology are explained so as to be understood by the people.

An example in point is a dissertation in an English illustrated journal on the tonsils, in which some rather wild statements are made concerning the office of these organs as preventers of disease. After discussing their structure and alluding to some of the guesses as to their function by physiologists (which were about as near the truth as medical guesses are apt to come), the writer comes to the latest supposition, which he seems to regard as an eminently satisfactory one. It is, namely, that the tonsils manufacture the white blood-cells in quantities to meet the demands of the system. Some of these sally forth into the blood and go up and down through the circulatory system like a squad of sanitary police (more efficient, we hope, than some of their human *confrères*), wandering off their beat when necessary to enter the private property of the organs and extra-vascular tissues, or wherever they may find disease-germs to attack and destroy. This is a fairly clear explanation of a plausible and popular theory as regards phagocytosis, but the assumption as to the blood-making function of the tonsils has hardly as yet arrived at the dignity of a truth, and its broad and unqualified statement in a popular journal of wide circulation is not, we think, in the interests of that scientific accuracy which writers for the laity should ever keep in view.

But all the white corpuscles do not make regular rounds, it appears, for many of them simply come out on the surface of the tonsils and there stand guard, like detectives watching for pickpockets at a circus, waiting for the unwary germ to show himself in order to annihilate him, and thus preventing the injurious germs from passing onward to the throat, stomach, and lungs. "This is," the writer says, and we cannot but agree with him, "both an extraordinary and an extremely interesting discovery, for it makes plain to us how and why many of the germs we inhale are prevented from doing injury to us. They may pass into the mouth, but the cordon of white blood-cells on the tonsils acts as a fairly efficient barrier, which the bulk of the germs we inhale may not pass, and we are thus secured from the germ-invasion of both the digestive system and the breathing system."

We bow to the phagocytes, for they must indeed be ready of sight and quick of hand to be able to seize a typhoid bacillus as he cavorts gayly in a turbid flood of milk and water rushing between the tonsils, cutting short his dreams of unbridled riot in the intestinal tract. The Indian salmon-spearer of the Northwest might take lessons of the phagocyte that sits upon the tonsil. But the white corpuscle is not a skilful fisherman only, for he can snatch the germ from the centre of a pasty bolus, as well as shoot him on the wing as he spreads his pinions to the northeast gale and flies by with the current to reach a quiet shelter in the pulmonary alveoles.

Now this is nonsense. The French investigator who has urged more especially this theory of the protective *rôle* of the tonsils is doubtless right in a measure. It may be possible that many pathogenic bacteria which become lodged on the tonsils are there destroyed by the white corpuscles, but this is very different from the absurdly exaggerated *rôle* attributed to these glands and to the white blood-cells by the romancer whom we have quoted. We believe thoroughly in lay instruction in the facts of physiology and bacteriology, and we are always glad to see popular presentations of these subjects in the magazines. But such travesties as this can only do harm and should be reprobated, notwithstanding that their perusal in the fresh and solemn original serves to amuse the professional reader, and furnishes a little relaxation to his tired mind.

THE DISCOVERY OF THE VIS MEDICATRIX NATURÆ.

THOSE who have carefully followed the recent and rapid progress in the study of infectious diseases cannot fail to be impressed with a feeling that we are on the verge of discoveries of extraordinary importance to humanity. We do not refer alone to the possible finding of protective "vaccines" for all kinds of diseases. It will always be better to "stamp out" than to vaccinate, and society will eventually adopt the first as the fundamental method. But there will surely come a time when the physician will not have to play the part of spectator while fevers and infections run their course. He will be able to do more than look after the nursing, leaving the rest to the natural resisting power of the organism.

Such is the inevitable conclusion drawn from reading the recently published Croonian lectures of Professor Burdon Sanderson on "The Progress of Discovery Relating to the Origin and Nature of Infectious Diseases."

The results of the labors of numerous modern experimenters have tended to bring us nearer every month toward a definite knowledge of the methods by which the human system fights against disease and is protected against infection. It has been shown that in some cases there develops in the blood a substance which is antagonistic to the life of the specific micro-organism and prevents its development, while in other cases there is developed a substance in the blood which antagonizes the toxic products of the microbe's growth, but does not stop the growth itself. Thus in tetanus the disease is

due to a bacillus which secretes in infinitesimal amount a convulsive poison. The infection is a toxic one. Now, by introducing into the circulation the blood of a protected animal it is possible to antagonize this poison without inhibiting the growth of the microbe. The specific protective agent, or "alexiteric," against tetanus is therefore an antitoxic agent.

On the other hand, in such diseases as splenic fever, rouget or pig erysipelas, the symptoms are accompanied with the production of enormous numbers of bacilli in the blood, and it is chiefly by the multiplication of these that the system becomes overwhelmed and death ensues. The infection is spoken of as "biotic," in distinction from "toxic," and correspondingly the protective agent acts by inhibiting the growth of the bacilli. In other words, the protective or alexiteric action is antibiotic. But it has been found, further, that the protective agents of both kinds are chemical substances which are held in solution in the liquor sanguinis, and are developed probably by the metabolic changes in the tissues.

That this agent is a soluble non-particulate substance was shown in an ingenious way by Emmerich. A rabbit immunerized to rouget was killed and the comminuted tissues subjected to extreme pressure; the juice obtained was filtered through porcelain and collected in sterilized flasks. Dr. Burdon Sanderson says: "When this is injected into the body of a normal, that is susceptible, rabbit it produces no disturbance of any function, but confers upon it an antibiotic state, so that if a sufficient quantity of the liquid is injected immediately after a fatal dose of the virulent culture of rouget, the development of the disease is averted. In such an animal a slight febrile reaction immediately follows the injection, whereas in an animal in which the development of the disease is left to itself the body temperature of the infected animal culminates on the fifth day with a temperature of 100° F. On testing the condition of the blood by plate cultures it was found that, as in the immune animal, there was no multiplication of bacilli. In other experiments, instead of introducing the virus and its antidote simultaneously, the injection of the former (the virus) was deferred for twenty-four hours. The result was much the same, showing that the effect continues for some time after the material itself has been discharged from the system, and this inference was confirmed by observing that even after eleven days the effect of a fatal dose was much mitigated, for the disease ran a favorable course ending in recovery."

The lecturer's conclusions from the foregoing studies are impressively put. Dr. Sanderson further says: "We have learned that a substance is contained in the liquor sanguinis, that it acts in relatively small doses, that it is capable of counter-infecting the whole organism, that by combining antibiotic and antitoxic properties in varying proportions it adapts itself to the requirement of the particular infection against which the organism is to be protected.

"How does all this bear on practical medicine? In medicine we have heretofore depended and still depend on the *vis medicatrix naturæ* as the means by which diseases may be cured. It has been proved that the organism possesses the power of bringing into existence certain chemical agents which are the embodiment of the particular *vis protectrix* required, by which the organism guards itself against some of the most important of the specific infections to which it is exposed.

"To have learned this is to have entered on the beginning of a new progress, to have turned over a new leaf in pathology. It seems to me to require no prophetic power to foresee that we are on the very threshold of discoveries in medicine such as will eclipse in their splendor all that have preceded them. Happy are they who are young enough to hope to see this anticipation realized."

SHAMMING FEVER.

We referred recently to certain cases of abnormally high or irregular temperature that had been observed and recorded by reliable observers, and said that the fact that such temperatures had actually occurred was indisputable, if repeated thermometric tests made with every precaution to prevent or detect fraud can be trusted to at all. Many of the cases of supposed high temperature, and which have been recorded as such, are, however, doubtless simulated. A curious little epidemic, it might be called, of malingering of this sort occurred during the past year at Helsingborg, in Sweden, and is recorded by Dr. Ali Krogius, physician to the Surgical Hospital in that city, in the October issue of the *Finska Läkasesällskapets Handlingar*.

Four patients in the hospital, three men and one woman, succeeded for a time in either simulating a fever which had no existence in fact, or in causing the thermometer to give a high register to a fever which was present in very mild degree. Their method consisted in rubbing the bulb of the thermometer in the folds of their undergarments, or in tapping with the finger several times on the upper extremity of the instrument so as to shake up the register. The malingerers were no ordinary fools, for they didn't throw the register up to the highest degree every time, but made the temperature curve follow what would ordinarily be seen in a typhoid fever, the evening temperature being always higher than that of the morning of the same day. The fraud was detected by using a thermometer in the rectum at the same time with one in the axilla, and keeping the patient under close surveillance while the temperature was being taken. The woman finally confessed to the imposition she had practised, and said she had learned the trick from a woman in a hospital in another town.

The weather is pretty cold in Helsingborg, and an industry that will insure a warm shelter and plenty to eat, even though it may be hospital fare, is likely to become popular. But then it is overworked and the game is spoiled. Another refutation of the theory that competition is the life of trade.

THE INFLUENZA.

The influenza is a very peculiar disorder, and no one can make positive predictions as to its future developments. We are much inclined, however, to discredit the sensational prophecies which have been made in the newspapers regarding another epidemic. The past history of influenza shows that it does not repeat its severe

visitations of any given locality for at least eight or ten years. The severe epidemics of London, for example, all occurred in the single seasons of 1831–32, 1837, 1847–48.

The diagnosis of influenza is not always easy, and there is really at date of writing no evidence that the disease is as yet alarmingly prevalent in this city. Such presence is usually shown by an increased death-rate, especially from pneumonias; but reports from hospitals and the Health Board do not show such increase.

We trust that there will be no undue alarm excited over the very doubtful prospect of an epidemic.

INSANITY AND GENIUS.

A GOOD deal of comment has been excited by the publication in English of Professor Lombroso's work on "Insanity and Genius." It is a work in which the author claims that genius is the evidence of a degenerative taint, and is, in fact, an "epileptoid degenerative psychosis." We trust that our readers will not be made to feel a sense of apprehension concerning their own mental soundness by Professor Lombroso's thesis. It is one that has been worked at before by Moreau de Tours and a good many others, and neither the world in general nor the medical profession in particular has been seriously impressed by it. Men of genius have not, as a rule, been mad, except with an insanity of a scientific and scholastic kind, such as the world really needs more of. The eccentricities, monomanias, and emotional exaltations of genius have been incidental, and were not the basis of their character and temperament. Insanity is essentially a non productive condition; no insane man has ever made a great discovery and originated great thoughts, or, by his own laborious efforts, changed the tide of human events. Insanity is a condition in which the power of adjusting one's self and one's conduct to the environment is lost. Surely there is no loss of this kind shown in the work or conduct of men of genius. Contemporaneous science has dealt somewhat kindly with Lombroso for the valuable work he has done and the new fields of study he has opened. But when he makes out Newton and Luther insane, and Christ a paranoiac, one must think that the Professor himself has neither sanity nor genius.

AN INDICTMENT OF THE TRAINING-SCHOOL FOR NURSES.

WE called attention a short time ago to the fact that the work of the trained nurse was a hard one, and her average health perhaps below the normal.

We were hardly prepared, however, to find following somewhat in this line a most savage onslaught on training-schools in general. Such an attack has been made by Mr. Peck, a Western clergyman, whose daughter died of phthisis, contracted, as he believes, from patients whom she was attending. The clergyman in question heads his article, published in the Cleveland *Leader*, "The Massacre of Nurses," and begins with a quotation from Rudyard Kipling:

"She had hoped to befriend misery, to bring help and healing to pain from the first days of her apprenticeship. What she actually was set to do was to scald babies' milk-cans."

"Through all ran the bad food, the scanty sleep, the insufficient hours of recreation, the cruelly long hours assigned for work, the nervous strain of supporting life from the merely physical point of view."

He adds, among other things:

"This training in some hospitals means polishing the faucets and dusting the furniture, and low menial duties entirely apart from any sensible training. . . . Some of these hospitals [of New York] are humanely conducted, while others have the name of building up a reputation on the blood of young women in ostensible training for nurses. The New York Hospital has an excellent name, while other hospitals of that great metropolis are mainly known as death-traps. They are far too willing to kill the noble nurse in order to save the often ignoble patient. To kill the nurse means little, to save the patient means medical reputation, and constantly they sacrifice our daughters to save their dollars. The institution which slaughtered my daughter has a reputation for doing the deadliest kind of work. This is the calm, cool testimony of those who wish its welfare."

Mr. Peck propounds also these questions:

"Do you know that more than half the trained nurses die of consumption? Do you know that from one to five years is quite likely to end your life with some vital disease if you choose this occupation? Do you know that if you pass through the two years of training you are likely to be a physical wreck afterward, and your life a burden to yourself and friends?"

A good deal more of the same kind is written, but the above is sufficient to show the general tenor of Mr. Peck's argument and the excited state of his emotions.

A great deal can be allowed to a person who has been so unhappily bereaved; and some measure of truth undoubtedly exists in the gentleman's charges. But the article as a whole does a gross injustice to our training-schools and hospitals, and to the philanthropic people who support them.

In place of reckless and sweeping statements regarding the death-rate and sick-rate among nurses, Mr. Peck should have investigated the matter carefully and given the actual facts. The assertion that "more than half of trained nurses die of consumption" is grossly untrue and calculated to cause much unnecessary alarm. The Rudyard Kipling quotation is a half-truth strikingly put. Young women who enter training-schools cannot at first be put in full charge of critical cases, and if they think that the work of a trained nurse begins and ends with sympathetic coddling of hysterical invalidism the blame is theirs. The careful cleaning of a baby's bottle is a great deal more important to the baby than hugs and kisses and soft lullabies.

The young woman who first enters a training-school has many illusions promptly dispelled. But she is not a prisoner, and if the work is disappointing she can leave it. Furthermore, she soon, if at all intelligent, learns the dangers of her calling and the strain it puts upon her.

But the nurse, as a rule, gets fond of her work, despite the bottle-washing and bad food and long hours. She will not leave it, she often refuses advice to take rest, and

neglects the precautions which might save her from sickness.

This, we believe, explains much of the sickness among nurses, and we may be permitted to wonder if the sad death of Mr. Peck's daughter was not in part due to some such cause.

THE PAN-AMERICAN MEDICAL CONGRESS AND OUR BRAZILIAN CONFRÈRES.

In speaking recently in these columns of the permanent organization of the Pan-American Medical Congress, we referred to the omission of Portuguese from the languages in which the preliminary publications are to be printed. It seemed to us to be a mistake, and we feared that it might be construed as a slight by the Brazilians. We are glad to learn, however, that the Executive Committee of the Board of Trustees of the Congress has decided to retain Portuguese, out of consideration for the large number of distinguished physicians in South America who speak this tongue, and as a mark of recognition of the cordial co-operation which the committee is receiving from the physicians of our sister republic of Brazil. This is as it should be, and we rejoice to find that in our criticism of the work of the organizers we were misled by the published report of the proceedings. This question of language may seem a small matter, but it is one that directly touches the passion of patriotism, and a mistake at the outset might mar the whole plan of organization.

SUICIDES IN INDIANA.

Dr. W. B. Clarke, of Indianapolis, being in a statistical frame of mind during the past year, has kept a record of the suicides and attempted suicides in his State for the twelve months ending with October, 1891. The results were published in the Indianapolis *News* and present a curious study.

The first thought that strikes one is that Indiana must be a rather undesirable place of residence if so many people prefer the terrors of the unknown to the evils of a longer stay where they were. During the twelve months ending October 30, 1891, no less than 426 men, women, or children laid violent hands upon themselves, 282 of them with success. These figures are certainly much below rather than above the facts, for Dr. Clarke says that he was away several times during the year when no record was made, and furthermore the statistics are based solely on newspaper reports, which of course are far from embracing all the cases, at least of attempted suicide, that actually occurred.

The youngest self-destroyer was a lad of twelve years, and the oldest was a man of ninety-two. After living on for such a length of time one would think the poor man might have had patience to wait the few years, or perhaps only months, that yet remained to him. Shooting was the favorite mode of suicide, leading the list with 84, and next to it came poisoning by morphine with 61, and then followed hanging with 53. Hanging was the favorite mode with farmers, probably for the reason that it was difficult to procure poison at the time that the suicidal impulse was acting. Seventeen followed Anna Karenina's example by throwing themselves before a train, one of them evidently in despair of succeeding in any other way, as he had made four previous attempts and failed. "Rough on Rats" figures, as usual, quite prominently, 13 cases from this cause being included in the list.

The greatest number of cases in any one month (48) occurred in July, next to which come December and January with 40 each; October had but 15.

The compiler of the statistics calls for legislation to restrict the sale of poisons—a useful measure in preventing accidental death, but of little avail in preventing suicide.

NOT AN EXCEPTIONAL CASE.

The following advertisement appeared in the physicians' personal column of the Medical Record for December 12th:

"A Young Physician, practising in this city for nearly two years, and earning less than one-quarter of his expenses, desires to know of an opening where at least, he can make a living."

It hardly seems necessary to comment on this, for it tells its own tale. How many men who read it will not feel a sympathetic chord touched in the memory of their own past, of the early years of struggle for a living and of bitter discouragement if not of actual want? It is indeed a mournful experience and one which few would have the courage to face were they able to realize its tortures beforehand. It is hard enough to wait for the practice to come, even when this waiting is free from any anxiety as to the means of support, but for a poor man who must support himself and may be, too, a wife and several little ones, it is bitter indeed. What with the overcrowding of the profession here and in all large cities, and the relentless and unscrupulous competition of the thousand and one dispensaries, infirmaries, clinics, and hospitals of every sort and kind, a poor man has little show and he had better not study medicine, not, at least, unless he has more than ordinary push and go and business tact—and possibly also ability.

But our young friend whose complaint and appeal we have quoted is too easily discouraged. If he has made anywhere near one-quarter of his expenses in the first two years of practice he has nothing to complain of, for he is better off, we venture to affirm, then the majority of young men of his own age, professionally. Anyone, we may safely say, who is able to cover his legitimate living expenses by the fees received from patients before the completion of his fifth year of practice, is doing as well as he can expect. Of course, there are many who do better than this—men who are helped along by older professional friends, who have a dispensary appointment and can work up a practice from that, and some few who possess the qualifications above mentioned. But they are not the majority, and there are men of much older medical life here in New York who are not making their salt.

So we say that this young physician is too easily discouraged. He ought not to have expected to jump at once into a paying practice. If he has the right stuff in him, can wait long enough, and neglects no opportunity to get and keep a patient, he may be able to pay his way at the end of another two years. If he cannot wait so long, he had better do something else.

But whatever you do, young man, don't lose heart. You will never gain anything by waiting, and self-confidence and a belief in ultimate success will do much in bringing success. Peg away, look outside for other work that you can do while waiting for what you have chosen as your life-work. But be sure, first, that you are fitted for the life of a physician and that your heart is in your profession, for without these essential conditions it is hardly worth while to struggle on, and you had better turn your hand to something else. There is, perhaps, no occupation where a love for the work in itself is so necessary to success as in medicine. It is not an easy path to walk at the best, but it becomes almost impossible when a distaste for practice clogs the feet.

THE SELF-PURIFICATION OF RIVERS.

THE question of the purity of water-supply presented itself to the inhabitants of this city in a very disagreeable way last summer, for while the contamination was at no time sufficient to cause fears for the actual present, it was suggestive and alarming in the way of showing what it might in time become. But for many other cities and towns whose water-supply is derived from rivers which receive all the sewage of towns above, the subject is one of ever-present interest.

At a meeting of one of the sections of the International Congress of Hygiene and Demography, in London, last August, Dr. Percy Frankland read a paper on the present state of our knowledge concerning the self-purification of rivers which was of a character to cause considerable uneasiness to dwellers on the banks of such long rivers as the Ohio, flowing past many large cities and receiving all their refuse, yet furnishing the only water-supply to these same towns and others below them. The writer contended that there was no such thing as the "self-purification of a river," and that the evidence brought forward to sustain that theory was fallacious and wholly inadequate to justify the drinking of water from a river which had received sewage contamination at any point nearer its source.

But now we have the opinion of Professor von Pettenkofer to the contrary. He has been examining the water of the Isar River, which flows through the city of Munich, with a population of between 250,000 and 300,000, and receives all its sewage. He made careful analyses of the water at different points, and found that all trace of pollution had entirely disappeared five miles below the city. Some workers in this field have held that the foreign matter was simply deposited as sediment and liable to be mixed with the water of the river at every freshet, but Dr. von Pettenkofer maintains that the real agent at work in purifying a river is the oxygen of the air which is absorbed by or dissolved in the water.

The results of von Pettenkofer's investigations are in line with the more popular theory, and are more quieting to the minds of dwellers in cities by the rivers; but it would be safer to follow Dr. Frankland's advice and seek a water-supply from some pure source that can be proved to be above suspicion.

Trional is said by Schultze to be a good hypnotic in doses of one to three grammes.

News of the Week.

Death as the Result of Violating the Code of Ethics.—A gentleman of New Orleans, responding to the invitation of a medical student to witness an operation at a clinic, was suddenly stricken with paralysis on taking his seat in the amphitheatre, and died shortly afterward.

Precautions Against Small-pox.—Assistant Secretary Nettleton has directed that a sanitary inspector be stationed at Rouse's Point, N. Y., during the prevalence of small-pox in Canada, to prevent the introduction and spread of that disease in the United States. The Collector of Customs at Plattsburgh recommended this action because of the large number of cases of small-pox of a malignant type in the vicinity of Montreal and Quebec, where the death-rate is said to be alarmingly large.

Faith without Works.—A clergyman of Wilkesbarre, Pa., awoke recently at night, said he was suffocating as the result of swallowing a set of false teeth. The family was summoned and the parting farewells given. While these significant and impressive ceremonies were in progress the truant teeth were discovered in a bureau drawer, whereupon the farewells were indefinitely postponed and the patient rapidly recovered.

A Suit against the New York Hospital.—Fifty thousand dollars damages has been brought against the New York Hospital in a suit for malpractice, the claim being that by tight bandaging of a fractured leg mortification of the extremity ensued, resulting in amputation.

A Belated Inscription.—Dom Pedro, ex-emperor of Brazil, has recently presented three medals to Doctors Simmola, Charcot, and Count de Mott-Maiea. They have on one side the portrait of Dom Pedro, while on the other is the inscription: "Presented to Dr. —— by the Brazilian people out of gratitude for saving the precious life of their paternal emperor." While the medals were being prepared his grateful subjects drove their "paternal emperor" from the country. They were finished a few weeks ago, and were forwarded to the ex-emperor, who had ordered them, arriving on the day of his funeral. *Sic transit*, etc.

Magnetic Girls.—A correspondent asks us how and when the tricks of the "Georgia Magnet" were exposed. The only magnetic girl who ventured to give exhibitions in this city was a Miss Hurst. It was abundantly shown at the time that her apparent feats of strength were due to sudden quick and dexterous movements on the lady's part. The subjects operated upon were taken off their guard, and were really made to help in the apparent exhibitions of strength.

Something One Gets in Germany.—There are a great many different inducements for making a trip to Europe. *The College and Clinical Record* states that Professor Parvin, while in Germany, last summer, secured a large number of female sexual organs for use on his obstetrical model. There was no duty paid, and we trust it will not be necessary to apply the principles of protection to this singular industry.

The Medical Department of the Sioux City Normal University has been abandoned.

An Italian Translation of Dr. Lewis A. Sayre's Work on "Spondylitis and Rotary Lateral Curvature," and also

of the paper on the "Treatment of Rotary Lateral Curvature," by Dr. Reginald H. Sayre, has recently been published by Professor Filippo Scalzi, of the University of Rome. It is very neatly printed, with all the illustrations of the American original.

Dr. Robert T. Wilson, of Baltimore, has been elected Visiting Physician to the Home for Incurables of that city.

The Health of the American Hog.—German inspectors have found that two and a half per cent. of American hogs are trichinous; but they also find the parasites dead, and consequently harmless.

"The Dying Prophet."—An extraordinary person, who goes by this name, is creating intense religious excitement in Russia. He dies every Saturday night and comes to life Monday morning. In the interim he has intercourse with the recording angel, and learns the secrets of human lives. The accounts state that he was born in the Caucasus, where he now lives. He is yet a young man, of humble rank in life, and of only ordinary education. Since childhood he has been bedridden and utterly helpless. For years he lay in his humble cottage, in the outskirts of Tiflis, with nothing to distinguish him from any common invalid. But a few months ago a curious change was observed. In brief, he died, to all appearances. His friends believed him dead. The doctors declared him dead. According to all ordinary tests, he was certainly dead. That was on Saturday. They prepared his body for burial, and the corpse lay in its coffin until Monday, when the funeral was to take place. At the very hour set for the obsequies, however, the young man suddenly returned to life. Ever since, the same event has occurred every week.

Chicago has got a Temperance Hospital, and the hospital has got $100,000. This with the World's Fair ought to make Chicago very contented. It will be a relief also to those from eastern lands of steady habits, to know that when they visit Chicago they can go to a temperance hospital if ill. Chicago is getting almost everything. Some day, we trust, it will have a medical journal.

Dr. W. F. Peck died in Chicago, December 13th. He was the founder of the medical department of the Iowa State University, was Dean of the Faculty, and has for twenty years held the chair of surgery in the institution.

Dr. M. L. Ruth, of the United States Navy, died in Washington on December 14th. Dr. Ruth was born in Pennsylvania, and was appointed an assistant surgeon in the navy on April 21, 1868. After serving on the North Atlantic Station and in Europe, he was appointed to the Bureau of Medicine in 1874. From 1877 to 1880 he was on special service, after which he became full surgeon, and served for five years on the Asiatic station in the Essex. Since 1885 he has been on duty in Washington, where he was a very prominent and popular figure in social circles.

The Woman's College of Baltimore, a well-known institution under the care of the Methodist Church, is said to have decided to establish a preliminary medical course, preparatory to the medical course for women which is some day to be opened in connection with the Johns Hopkins Hospital and Medical School.

Advertising in Medical Journals.—The *Journal of the American Medical Association* prints the card of a physician, and in addition gives a generous and flattering editorial "reading-notice" of its patron.

The "Dean" of the Medical Faculty of Berlin is Dr. Steinthal, who is ninety-three years of age, and has been in practice for seventy years.

An Anglo-Imperial Medical Congress.—It is proposed to hold a medical congress made up of delegates from Great Britain, Ireland, and the English colonies.

The Congress of American Physicians.—Some of our contemporaries are worried unnecessarily, we think, over the following editorial item from the *American Practitioner and News*. Dr. Yandell says: "The Congress is clearly on a solid working basis, and being so constructed as to harmonize all the heterogeneities of the many diverse societies of the land, will soon supplant the American Medical Association as the representative of American medicine. The latter, we fear, is too much handicapped by politics and local prejudice to distance its young competitor in any future race."

Dr. Walter Rae, of Jersey City, N. J., died suddenly of apoplexy on December 10th. Dr. Rae was born in Scotland about forty-five years ago.

Dr. Frank Donaldson, Senior, of Baltimore, Md., died on December 9th, aged sixty-nine. Dr. Donaldson was born in Baltimore, and took his degree at the University of Maryland. For forty years he was connected with that institution. He was an active member of many medical associations, and a contributor to the medical journals. He was the author of several valuable works on lung diseases, and was particularly known for his work in this line and in diseases of the throat.

Dr. David S. Smith, of Irvington, N. J., died at his home, in that township, on December 8th, at the age of sixty.

Dr. Hugh H. Abernethy died at his home, in Jersey City, on December 10th. Eighty-three years ago Dr. Abernethy was born in Bucks County, Penn. In 1830 he was graduated from the University of Pennsylvania and began the practice of medicine. For fifty years Dr. Abernethy was recognized as a successful surgeon and physician.

A Novel Offence against a Physician.—A recent number of *Vratch* quotes a statement to the effect that a St. Petersburg physician was about to prosecute a man who had caused one of the physician's prescriptions for his deceased wife to be posted over her grave, in order to call public attention to his belief that the medicine had been the cause of her death.—*New York Medical Journal.*

No Fee, No Sutures.—*The Medical Standard*, commenting on the case of Dr. L. W. Whitney (who cut the stitches of a wound he had sewed up when a promise of immediate payment was not fulfilled), hoped that this legally justifiable course would not be imitated. This hope was disappointed. Dr. Cragin, county physician of Cumberland, Md., sewed up the wound of a patient who called on him under the belief that gratuitous treatment was part of the duties of a county physician in charge of a jail, almshouse, and insane hospital. Dr. Cragin's fee was refused, whereupon he cut the stitches.

Compressed Medicine to be Used Hereafter in the Army and Navy.—The army medical service is interested in a contract which was awarded at the War Department for a new system of carrying medical and surgical supplies for an army. Ever since the last Sioux campaign there has been a growing demand for a plan by which supplies needed by the surgeons could be placed in a more compact form than liquid, and carried with greater safety and economy. The result of the award is believed to be as near perfection as possible. In a small, light wooden chest, 23 inches long, 14½ inches wide, and 17¾ inches high, are sixty square bottles, containing as many different kinds of medicine, but in compressed tablet form, none of them being larger than an ordinary peppermint lozenge. One of these lozenges or tablets contains all the necessary ingredients of a liniment, and when dissolved in an ounce of distilled water its healing properties are the same as if it was in liquid shape and in a big glass jar. Some idea may be formed of the perfection to which the art of compression has been brought, by the fact that if the contents of this small brass-bound chest were liquefied and in their customary jars and bottles, they would occupy nearly one-half of the space of a regular freight-car. After all, however, fluid extracts and powders take up less space than compressed tablets.

Apoplexy in Rome.—The "Dea Febris" was invoked in the City of the Seven Hills to avert the local fever, and, in later times, a special saint is worshipped by the devout to save them from death by apoplexy. Statistics might be adduced to show that apoplectic seizure—or, at any rate, cerebral hemorrhage—is exceptionally frequent as a "mode of dying" in Rome, the heavy atmosphere, charged (in the Campagna particularly) with malaria, and the remarkable stillness of the air, due to absence of winds, being eminently favorable to "determination of blood to the head." The saint whose intercession is implored by subjects of an "apoplectic habit," hereditary or acquired, is, curiously enough, St. Andrew. Now, as that apostle was, according to ecclesiastical tradition, crucified head downward, at his own request (as he deemed himself unworthy to win the martyr's crown in the position in which his Divine Master died on the cross), we can readily understand how he should have been selected by the faithful as the typical example of death by congestion or stasis of the cerebral circulation, and how in the saintly calendar he should be especially invoked to protect his votaries from dying by a similar cause.—*Lancet.*

Collapse of Another Cancer Cure.—A few months ago Professor Adamkiewicz announced that by means of some experiments he had been able to arrive at a certain method for curing cancer. The excitement which this announcement made in Vienna was such that the Minister of Education was induced to invite the Professor to come to the Austrian metropolis for the purpose of testing his new treatment in one of the state hospitals. In a ward under the charge of Professor Billroth, Adamkiewicz was permitted to experiment upon a patient who was believed to be affected with epithelioma of the upper and lower lids of the right eye. The history showed that the disease was rapidly spreading, and, under the circumstances, therefore, the case seemed a most suitable one for testing the value of the new treatment. On October 25th the Professor took the patient in hand, the result being that on November 12th the sufferer was discharged from the hospital—cured. In other words, after eighteen days' treatment an epithelioma of the upper and lower lids was pronounced by Adamkiewicz to have perfectly cicatrized over. Professor Billroth examined the case and asserts that the patient was not cured. Professor Albert adds that other experiments of Adamkiewicz in his wards were unsuccessful.

The Brain of the Dynamiter who was blown to pieces in trying to coerce two millions out of Russell Sage has been examined, and declared to show evidences of insanity. The weight of the entire brain was 1,210 grammes, which is about two hundred grammes or six ounces below the average. The cerebellum weighed 154 grammes. The dura mater had a ballooned appearance, as if blown up, but was normal. The pia was healthy. Over the hemispheres, mostly on the left, in various sulci, and at the base, there were numerous extravasations of blood, evidently of recent origin, and due to the explosion. These were on the surface and beneath the pia mater. There were no adhesions of the pia mater to the cerebrum. There were some slight lacerations of the brain-substance, also evidently recent and due to the dynamite. The left ascending parietal convolution, especially in its upper half, and the left first temporal convolution, especially in its anterior half, were greatly atrophied. The gray matter of this left ascending parietal convolution was five millimetres in depth, and that of the left first temporal four millimetres, while the gray matter of the left ascending frontal convolution was ten millimetres in depth, and that of the other convolutions varied from ten to seven millimetres. The left crus cerebri was four millimetres smaller than the right, and the left half of the pons was four millimetres smaller than the right. These abnormalities were all that were visible to the naked eye; the frontal, parietal, occipital, sphenoidal, and temporal lobes of the cerebrum, the corpus callosum, the basal ganglia, the crura, the pons, the medulla oblongata, the spinal cord (only its ultra cranial end), and the cerebellum having been carefully examined. But although not positively diseased, other than as described, the convolutions of the cerebrum were undersized, and the sulci were shallow.

Influenza and Neuroses.—The following, according to Dr. George H. Savage, are some of the unpleasant things that influenza can do: Influenza, like other fevers, may set up psychopathy. Insanity may come on at various periods of the disease. It may start any form of insanity. No specific symptoms result from influenza. The rôle of the influenza varies in the production of the insanity. It may be the predisposing or the exciting cause. In all cases there is some acquired or inherited predisposition. The insanity follows from altered brain-nutrition, possibly toxic. Onset of insanity often sudden and bearing no relationship to the severity of the influenza. The curability depends on the general rather than special conditions. The insane are less disposed to take it than the sane. Rarely it has cured psychoses. The insane may have mental remission during the influenza. There is no special indication in the treatment. Influenza may lead to crimes and medico-legal issues.

Society Reports.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Adjourned Annual and Stated Meetings, November 23, 1891.

DR. O. B. DOUGLAS, THEN DR. G. H. FOX, IN THE CHAIR.

Report of the Committee on Hygiene (DR. A. JACOBI, Chairman).—The adjourned annual meeting being called to order by the outgoing president, Dr. Douglas, the Society listened to the above report. Dr. Jacobi requested Dr. H. D. Chapin to read that part of the report relating to the condition of the public schools. DR. CHAPIN said that they had visited others of the public schools than those visited last year, besides again visiting the latter to learn whether evils previously pointed out had been remedied. The unhygienic condition, relating to ill ventilation, want of sufficient light, overcrowding, etc., had not been remedied in those visited last year. The worst state of things was found in the primary, not in the grammar, schools. Inquiring into why the evils had not been corrected, he said it was due to divided responsibility between Boards of Trustees, the Board of Education, and the Board of Apportionment. The Board of Trustees was a local board, and sometimes failed to ask the Board of Education for money to make repairs or an improvement, preferring to let a bullding get into as bad a condition as possible in order that the time might be hastened when they could get an appropriation for a new one. The Board of Education was to blame for expending a disproportionate amount of the school money on what might be called the ornamental grades, leaving the primaries to suffer. The Board of Apportionment failed to grant sufficient money for the schools in general. Dr. Chapin thought a remedy would be forthcoming if the Board of Health were given the power not only of condemning a building when in an unhygienic condition, but also of peremptorily closing the school if the evil were not corrected. If this were done in one or two instances the press would soon arouse such a sentiment that complaints would not long go unheeded.

DR. A. JACOBI then offered the following resolution, which was adopted unanimously: Resolved, that the Board of Health and the Health Department be requested to use both its actual authority and moral influence to secure for the school children a sufficient amount of air, light, and accommodation, and to protect them from the dangers to their health unavoidable in the present condition of the majority of the common schools.

Need of More Hospitals for Contagious Diseases.—DR. JACOBI read the remainder of the report, which dwelt on the necessity for at least four more hospitals like the Willard Parker, located in different parts of the city so as to be accessible to all, where persons could be taken when stricken with scarlet fever or diphtheria. There was also urgent need for temporary retreats for healthy members of families in which any of the contagious diseases prevailed.

There was especial need for a hospital where strangers visiting the city, or here on business, could go if taken with small-pox, diphtheria, or scarlet fever.

A resolution was passed, urging an increase of the special hospitals for diphtheria and scarlet fever, and expressing the conviction of the Society that there is no better protection against the multiplication of contagious diseases throughout the city than by providing temporary homes for the numerous children gathered around the cases of pestilence from which there is no remedy except in flight.

DR. DANIEL LEWIS read a report, setting forth the financial prosperity of the Medical Directory for the county of New York.

DR. DOUGLAS, before introducing his successor in the office of president, made some remarks on the prosperous state of the Society, and said in no previous year had so many new members been admitted, and at no time before had there been so much money in the treasury. He hoped the Society would in time have a sufficient sum to secure a permanent home.

DR. GEORGE HENRY FOX, President-elect, then called the stated meeting to order, and appointed the following committees: On *Hygiene*, W. A. Ewing, Chairman, George H. Bosley, S. H. Dessau, Mary Putnam-Jacobi, Robert T. Morris; on *Ethics*, A. B. Ball, Chairman, Everett Herrick, Frank W. Jackson, Laurence Johnson, W. H. Katzenbach; on *Prize Essays*, E. B. Bronson, Chairman, Samuel Lloyd, Beverley Robinson; *Auditing Committee*, William Stevens, Chairman, George T. Jackson.

Clinical Remarks on Pulmonary Œdema.—DR. A. ALEXANDER SMITH read the paper (see p. 730).

DR. J. WEST ROOSEVELT agreed with the author that œdema of the lungs could not be produced mechanically. It was probably brought about by the influence of the nervous system. Against the mechanical theory was the fact that it was perfectly possible for the heart to be working well, yet pulmonary œdema take place. Apparently two factors were necessary to produce it, the one constant, the other might be variable. The constant factor was a changed condition in the sympathetic nervous system. The variable one might consist in disease of the heart, of the lungs, of the kidneys, etc. As to treatment, personally he had not been as unfortunate in the use of dry cups as the author. He was very glad to hear strychnia endorsed so warmly. He had made use of it in much larger doses than $\frac{1}{100}$ gr. He could recall one case in Bellevue Hospital where they gave $\frac{1}{30}$ gr. hypodermically every half-hour until four injections had been made, and afterward $\frac{1}{60}$ gr., according to the condition of the pulse. The man recovered from his œdema and pneumonia. He also thought it would be necessary in many cases to give nitro-glycerine in larger doses than $\frac{1}{100}$ gr., if one would obtain much effect. He had given as much as $\frac{1}{15}$ gr., diminishing the amount according as the pulse showed the effect which he sought. The value of morphine was also unquestionable.

DR. F. P. KINNICUTT corroborated what Dr. Roosevelt had said regarding the value and size of the dose of strychnia and nitro-glycerine. He had for some years been accustomed to treating certain conditions of the kidneys with large doses of nitro-glycerine, giving, say $\frac{1}{50}$ to $\frac{1}{100}$ gr. every fifteen to twenty minutes. The quantity might be governed by the patient's consciousness of the effect; unless it produced flushing of the face and an uncomfortable feeling in the head the right dose had not been exceeded. This amount could be continued almost indefinitely without harm. Its effects were very evanescent, and he doubted whether if it were repeated only at intervals of an hour or two hours its effects on the blood-vessels could be kept up. His experience with strychnia had also been like that of Dr. Roosevelt.

DR. ANDREW H. SMITH corroborated what had been said regarding the influence of the nervous system in causing œdema of the lungs; also as to the evanescent influence of nitro-glycerine, which he believed was eliminated in forty-five minutes. Where it was desired to keep up the action for some time he preferred some other nitrite, as the nitrite of sodium. Oxygen had been useful in some cases in his hands, and he could not understand why it should produce a sense of dyspnœa, unless in the sense that a strong current of air would do so. He was glad the author had omitted mention of digitalis, which, perhaps, was often given in pulmonary obstruction, but was sure to do harm. Digitalis would cause the arteries to empty into the veins, whereas in these cases it was desired to empty the veins into the arteries.

DR. RICHARD VAN SANTVOORD had in several instances observed the effect of nitro-glycerine by the sphyg-

mographic tracings of the pulse. The maximum effect was reached in about ten minutes, and it passed off very rapidly, which showed the necessity for frequent doses in very acute cases.

DR. A. A. SMITH said that nitro-glycerine given in doses of one to twenty-five grains every half-hour would after three or four doses cease to produce the characteristic effect. The same thing would be observed if one to one hundred grains were given frequently, say every fifteen minutes. He had, therefore, spoken advisedly when he said he would give it in these cases only once in two hours, then as an aid to the other drugs as well as for its own effects.

The Simple Incision for Perityphlitic Abscess.—DR. CHARLES MCBURNEY read a paper with this title. The simple incision introduced by Willard Parker had undoubtedly proven useful in its day, being superior to methods previously in vogue. The paper, however, showed that with our further knowledge of perityphlitic abscesses it was unsafe to delay an operation with the hope that the abscess might reach a point in the inguinal region where it could be opened by simple incision. The position of the vermiform appendix, where it was now known the inflammation had its origin, the frequency with which the abscess failed to establish connections between the peritoneum and the external walls, the danger of rupture into the gut, into the peritoneum, etc., were clearly shown to make it dangerous to delay. Out of many illustrative cases which had come under his observation, he related the histories of about half a dozen. Some showed that where one might suppose the simple incision was practicable and would prove easy, in reality unlooked for dangers were encountered, the free peritoneum had to be entered, etc.

DR. JOSEPH D. BRYANT said that from an anatomical standpoint, and also from clinical observation, he thought the simple incision objectionable. It limited the opportunity for observing the seat of the disease; it limited the opportunity for drainage; it offered no direct way for removal of the disease itself. As bearing on the first point, the seat of the disease, he submitted an analysis of a hundred cases, autopsies in which Dr. Briggs, at his request, had kindly examined the vermiform appendix—1, As to its origin; 2, its size; 3, its length; 4, its situation; 5, its direction; 6, its contents; and some other facts which he did not then remember. In the 100 cases the most frequent situation of the appendix with reference to the cæcum was as follows: directly behind the cæcum, 20; behind the cæcum and internally, 2, extending in one of these up to the liver; behind the cæcum and running upward, 4. Behind the cæcum meant hanging down behind the cæcum or curled up behind it. Of the 100 cases it was freely movable in any direction in 21. In these 21 cases it extended in 10 into the pelvis, in 1 it extended into the hollow of the sacrum. It was very evident that in cases where the appendix extended into the pelvis, simple incision would offer very little opportunity for observation and for drainage. Eight of the 100 extended to the brim of the pelvis; 79 were not free, that is, they had a mesentery, long or short.

As to the contents of the vermiform appendix in the 100 cases, 70 of the patients were known to be males, and in 30 of the 70 cases the appendix contained fecal matter. In 52 of the 100 cases the fecal matter was hard; in 13 it was soft; in 12 its consistency was not stated; 6 contained mucus; 4 contained mucus and fæces; 2 contained mucus and pus; 1 contained fæces and pus; 1 contained mucus and gas; 2 were impervious; and only 21 were empty. Of the females, in only 12 were the contents of the appendix examined; fecal matter existed in 3, hard in 2 and soft in 1; 1 contained gas and mucus; in 7 it was empty, that is, there was a larger per cent. empty in females than in males, which corresponded to the clinical fact that disease existed oftener in males than in females. In not one of the 100 cases was a grape-seed or foreign body found in the appendix. In 6 cases the appendix was extra-peritoneal, showing that it was possible for perforation to be subperitoneal. With regard to treatment, he subscribed to what Dr. McBurney had said.

DR. A. G. GERSTER said he supposed the paper was directed against the improper application of the simple incision in perityphlitic abscess. When, as sometimes happened, the abscess had reached near the surface, causing inflammation and thickening of the tissues above and shutting off the general peritoneal cavity, there could be no doubt that incision and drainage was proper and a simple procedure. On the other hand, there could be no doubt that a large number of cases would not, if allowed to go on, end in that way and permit of such simple treatment.

The more intimate anatomical character of perityphlitic abscess was not known before the work of McBurney, Sands, Weir, and others. In not all cases did the walls of the abscess enter into close relation with the parietal peritoneum, and consequently an operation must be done with much skill in order to avoid infecting the peritoneum and setting up sepsis. But by surrounding the abscess with gauze and making a small puncture, so that the pus should escape very gradually, one could operate with much greater safety, because not soiling the peritoneum, than he could under old methods. He mentioned the fact that the feel might lead one to suppose inflammatory adhesions to the parietal peritoneum and abdominal walls had taken place, and so be led to puncture to determine the presence of pus, and much to his chagrin find no such adhesions had formed, and that his puncture had resulted in infecting the peritoneum. With most surgeons the aspirator was something which had been relegated to "limbo."

DR. R. F. WEIR thought the author, speaking as he supposed of encysted perityphlitic abscess, had justly taken the ground that an incision should not be postponed. The simple operation should not be delayed since it was liable to be complicated and attended with unexpected dangers. Septic processes were liable to develop which might be obviated by an immediate operation, especially where the abscess was behind the cæcum. If allowed to go on, the abscess became large, and required greater skill to drain and otherwise treat safely.

Should the Appendix be Searched for?—Regarding the question whether the appendix should be sought, he said it was desirable to remove it when it came readily into view, but time should not be taken in looking for it. It was not very likely to do further harm if not removed; usually it had disappeared by gangrene, or by sloughing, was closed at the cæcum.

DR. L. A. STIMSON thought the great objection to the simple incision was in waiting for the time when it could be practised, for meanwhile the patient's condition might become such that no course would then save him. The statement had been made that in a large proportion of cases perityphlitis was a simple disease, yet within a few months he had seen nine cases, and in three of them the patients reached a condition in which they were in immediate danger of death while waiting for a simple incision; that was thirty-three per cent.

DR. MCBURNEY endorsing the remarks of Dr. Gerster in opposition to the use of the aspirator, said that he would not advise that much time be spent in looking for the appendix, but yet to leave it was not without some danger of subsequent trouble.

The Latest Substitute for the Compound Pill is a gelatine capsule with various compartments, each one containing one of the ingredients in powder or extract, uncombined.

A Variegated Complexion.—The case is reported by Dr. McHardy, of England, of a boy, the upper part of whose body was deeply jaundiced while the skin below the level of the umbilicus had the pink hue of health.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

DR. BURDON SANDERSON'S CROONIAN LECTURES ON THE PROGRESS OF DISCOVERY RELATING TO THE ORIGIN AND NATURE OF INFECTIOUS DISEASES—THE ASSOCIATION OF SANGUINOLENT PLEURAL EFFUSION WITH ABDOMINAL DISEASE.

LONDON, November 28, 1891.

HAVING endeavored to show that the proximate cause of inflammation is always chemical, Dr. Burdon Sanderson proceeded to discuss Metchnikoff's theory of phagocytosis and what has been termed the "chimiotaxis" of leucocytes. He urged that the facts of chimiotaxis did not lend any support to the theory of Metchnikoff, that the leucocytes were actuated by an almost conscious discrimination of what is advantageous to the organism. Dr. Sanderson remarked that while we are now able to understand better what Sir John Simon taught thirty years ago, viz., that there is an antagonism between inflammation and contagion, between leucocytes and viruses of all kinds, there is no reason for attributing this to the maintenance of a mysterious relation between the leucocyte and the organism with which it is no longer in structural continuity.

The lecturer discussed in succession the subjects of attenuation, immunity, and that of specificity. He observed that the term "attenuation" had replaced the old word "mitigation," and there is no objection to it provided that we remember that what is thus designated is not what Pasteur originally meant by attenuation. For "insusceptibility" we had also taken to the use of the new word "immunity," which was inconvenient, because the states to which we have most frequently to refer are neither states of immunity nor of the contrary, but somewhere between the two.

In considering the etiology of specific infectious diseases, Dr. Sanderson took as examples tuberculosis, typhoid fever, pneumonia, tetanus, and diphtheria. Having discussed these several diseases in some detail, the lecturer said the question in respect to each was, How does the supposed cause produce the effect attributed to it? The answers had been found to be as different as the diseases. Some morbific agents acted by virtue of their endowments as living organisms, others chiefly by virtue of the "toxines" which they produced. Thus in splenic fever and (in a different sense) in tuberculosis the morbific action was pre-eminently biotic, in diphtheria pre-eminently toxic. The nexus between the morbific agent and the morbid process was in the one case dissemination, in the other diffusion. In both cases a fatal influence spread from a focus of infection, but in splenic fever the spread was by the multiplication and dispersion of myriads of bacilli, in the other by the slow contamination of the organism by a poison which it was convenient to call provisionally toxin, though perhaps a proteid, and certainly pre-eminently colloidal. We might, therefore, classify infective diseases in line, placing splenic fever at one end, tetanus at the opposite end, and the others in intermediate positions, according to the relative predominance of the toxic or biotic element in the action of the microphytic agent. We should bear in mind that every morbific microphyte acts primarily toxically, and that without toxical power no microphyte can live. Even in the case of splenic fever we had evidence that mitigated bacilli do not multiply, and are not disseminated in the bodies of susceptible animals, a fact which seemed plainly to indicate that the reason why virulent bacilli do multiply is that by their direct action on the tissues, and by thus surrounding themselves with an environment in which they can live, they acquire sufficient power to be aggressive.

Another point was that of the possible substitution of one species for another. Our studies led us to the conclusion that in certain instances the same kind of infective action may be exercised, and the same morbid process be initiated, by microphytes of different species—*i.e.*, that in these cases, although the intervention of some microphyte is essential in order to bring the morbific agent into existence, one may act as surrogate to another.

In concluding the course of four lectures, Dr. Burdon Sanderson said he had endeavored to show that although the first qualification of a disease-producing microphyte was the faculty of living and multiplying in the living tissue, the researches of recent years had taught us that its poisonousness was even more essential than its adaptedness to a living nutritive medium; so much so that the damage which it thereby inflicted on its living environment was a means by which it modified that environment for its own advantage. The contest in the organism between tissue elements and microphytes was not a hand-to-hand encounter, but rather one in which both acted at a certain distance, and one in which the weapons were poisons and counter-poisons—toxines and anti-toxines—words which merely implied that the physiological endowments of these bodies were antagonistic. The question of infection had become more and more chemical, but we guard against its being implied that any progress in the discovery of the chemical agencies by which diseases are produced and prevented can be made without the bacteriological method, or that it is in the least less necessary than before that all who intend to be pathologists shall perfect themselves in the technique which Koch created. If the questions which concerned us appeared to be chiefly chemical it meant only that we had got from the form to the substance, from the agent to the action. Pathologists were never phytologists, and did not pretend now to be chemists. We cared for microphytes not as botanical species, but as makers of toxines, and for toxines not as chemical compounds, but as producers of disease. As they were not organized we must call them chemical, but our chemical knowledge was so inconsiderable that the chemist would scarcely recognize their existence. They possessed certain nosogenic or alexiteric properties which appeared to attach themselves to proteids; but of their chemical nature the pathologist was able to say even less than the physiologists could of the so-called euzymes.

At the last meeting of the Medical and Chirurgical Society considerable interest was evoked by a paper from Mr. Lawson Tait entitled "Pleural Effusion in Association with Disease of the Abdomen." Mr. Tait said the object of his paper was to draw attention to the occurrence of pleural effusion as a condition occasionally associated with abdominal disease. The first case in which he saw the complication was one in which the disease proved to be a cancerous development in the ovary associated with secondary cancerous growth in the pleura, the result of which was that the pleural effusion had a sanguinolent character; a tentative operation to deal with the abdominal disease proved a failure, and the patient died. In other cases of abdominal disease in which there was pleural effusion of a bloody character, he had given a universally unfavorable prognosis and declined to operate on the ground that the complication was a certain indication of the presence of malignant disease. Mr. Tait related, however, a case in which there was double effusion into the pleural cavity of a markedly bloody character with ascitic effusion in the peritoneal cavity (also sanguinolent and associated with a tumor); the patient recovered from three tappings of the pleura, after which the pleural effusion did not recur. The ascitic effusion recurred after thirty tappings, and the patient's health improved so remarkedly that Mr. Tait determined to attempt to remove the tumor, which was the apparent cause; this proved to be a fibroid tumor of the ovary, which was removed quite successfully, and the patient's health remained perfect four months after oper-

ation. As no recurrence took place the author was inclined to regard the opportunity that he had in this instance of correcting an erroneous conclusion as a remarkable confirmation of the view he had often expressed, viz, that all cases of abdominal disease, however unfavorable, ought to have the opportunity of an exploratory or confirmatory incision.

An animated discussion followed the reading of Mr. Tait's paper. Dr. Hale White referred to a paper, by the late Dr. Hilton Fagge, in which the mysterious affinity between the various serous cavities was pointed out. Dr. Routh said the question raised was, "Was malignant disease of the abdomen present in every case of sanguinolent pleuritis?" The case quoted by Mr. Tait was one of benign tumor, and the pleuritis of children was often sanguinolent without abdominal disease being present. Dr. Griffiths said he had seen one case of pleural effusion associated with hydroperitoneum in which he had advised against operation; there was œdema of the lung and albuminuria. The operator, however, removed the growth and the patient got rapidly well. Dr. Frederick Taylor thought tubercle was the most frequent cause of effusion into both the pleura and peritoneum. The occurrence of blood in a serous effusion could not be regarded as a sign of malignant disease, for blood-vessels in a partly organized adhesion might give way. Mr. Barwell observed that malignant diseases of the pleura might exist without sanguinolent effusion. Mr. Tubby said experiments on animals went to show that the pleura, pericardium, and peritoneum were to be regarded as large lymphatic sacs communicating with each other. Dr. Herbert Spencer said pleural effusion was common in malignant disease of the abdomen and also in septic cases. Mr. Tait then replied and said his reason for producing the paper was that in conversations he had held with several physicians having much to do with diseases of the chest, he had uniformly been told that a serous pleural effusion containing blood in cases of chronic abdominal disease was of necessity an indication of malignant disease. He had believed that statement to be true until he met with his second case related, in which he had excluded all the ordinary causes of effusion, such as rheumatism or pyæmia.

HOW TO PRESERVE THE PERINEUM.

To the Editor of the Medical Record.

Sir: In the last issue of your valuable journal (December 5th) I was interested to see an article by Dr. N. W. Rand on "The Perineum: How to Preserve It." I agree with him that stretching of the vaginal orifice with the fingers is of value to prevent its laceration in primiparæ. This procedure has often been resorted to in this hospital, and always with good results.

But there is a statement in Dr. Rand's article which I cannot accept, and I think that the majority of obstetrical operators will also question its truth, viz., that "we almost invariably tear the perineums of primiparæ in instrumental deliveries." A friend of mine once told me that he had never seen a primipara delivered with forceps without laceration of the perineum; he had seen and had had in his own practice many cases. I have heard others make similar remarks, so Dr. Rand is not alone in thinking that the perineum must usually be sacrificed, if instruments are used upon a primipara.

The following statistics upon this point seem to me of interest. On looking through 600 cases occurring in the Sloane Maternity Hospital within a year past, I find that 46 primiparæ were delivered with instruments, viz., 4 craniotomies, 2 "high forceps," 10 "medium forceps," and 30 "low forceps." Twenty eight of these 46 were not torn at all, 5 were so slightly torn at the posterior commissure that they need not be called "lacerations," while 13 (about twenty-eight per cent.) were torn badly—varying from one centimetre in depth to a laceration as far back as the sphincter ani. Only two were torn to the sphincter—one was an ordinary "low forceps" with a very inelastic perineum, the other a case in which craniotomy was performed upon the after-coming head because of failure to deliver after podalic version, which was done on account of eclampsia and a deformed pelvis.

Such statistics form in my opinion a basis for believing that, if the perineum of a primipara is torn when instruments are employed to deliver, the operator is in the great majority of cases wholly to blame. Making the head advance slowly and observing the proper mechanism are the two main points ever to be kept in mind by the accoucheur, whether the delivery is instrumental or not.

Yours respectfully,
Ervin A. Tucker, M.D.,
Resident Physician.

Sloane Maternity Hospital, New York,
December 10, 1891.

To the Editor of the Medical Record.

Sir: In the article by Dr. N. W. Rand, on the above subject, in the Medical Record of December 5, 1891, I would like to add my testimony, as his method has been my routine practice in one hundred and sixty-three cases. That I was taught it in text-books or in college I cannot remember, but the bedside has at least done so. I do not think it original, but believe it to be common practice. If there is a method above others by which the accoucheur can assist his patient this certainly takes the lead. It preserves the perineum, it strengthens pains, and shortens labor. It is not necessary in all cases that one attends. In multipara, when the perineum is soft, patulous, and easily dilatable, it will shorten and ease labor some, but it might be a meddlesomeness that might be called unnecessary. In primiparæ, the class in which there is always considerable danger of rupture, especially if compactly built and somewhat advanced in years, the method is of the greatest service, and, in my experience, will keep the perineum intact.

My method has been, too, invariably, after the second stage of labor has fully set in and the head begins to press upon the perineum, to press the perineal body with the index- and middle-fingers, between pains, firmly backward and downward. The pressure is or need not be painful, and the dilatation one makes in this way will always be plainly perceptible, the effect on the pains and mother always favorable, and the physician will not be in the state of terrible apprehension in which he is so often placed when he has his hand upon a thin, hard, and membranous dilatation, fearing that the pain will tear it in twain.

It does not only do all this, but even more in breech presentations. It often saves the life of the infant. In a breech presentation it is the best practice, as soon as you have made your diagnosis, to dilate with your hand the orifice of the vagina and the perineum, so that the head may be born as rapidly and safely as possible. It certainly seems to me that every accoucheur ought to have this fact suggested to him by the very conditions he so constantly finds at the bedside.

Herman Gasser, M.D.

Platteville, Wis., December 7, 1891.

Sauerkraut in Dyspepsia.—Dr. Heller, of Vienna, thinks he has found a remedy for dyspepsia in that well-known digestive tonic, sauerkraut. It is especially recommended to nervous invalids who suffer from eructations and flatulence after meals. Dr. Heller is not trying to be funny, but apparently means what he says. That may do for the German stomach, but, perhaps, the American dyspeptic would do as well to stick to mince-pie and hot soda biscuits, with an occasional Welsh-rarebit thrown in.

PNEUMONIA—ITS ABORTION.

To the Editor of the Medical Record.

Sir: In the Medical Record of May 2, 1891, appeared an article by Dr. Oliver J. Roskoten, giving his experience in aborting lobar pneumonia by the use of jaborandi. I desire to give some likewise apparently encouraging results in attempts at aborting the catarrhal as well as the lobar form of the disease. My main reliance is on ergot.

Not long since I met with three cases which at the time I considered catarrhal pneumonia in its congestive stage, but following the use of this drug the morbid process so speedily subsided that I thought that a mistake in diagnosis must have been made. I could not break away from the inbred idea that pneumonia must run its course to the end; but I resolved to observe closely in the future.

Within the past month it has been my fortune to meet with five additional cases, of various ages, which, in my opinion, were catarrhal pneumonia in its early stage, all aborted. In four the disease had only progressed to congestion, while exudation had occurred in one of the cases.

The treatment has been the same in these eight cases, except in the last five, in which, influenced by Dr. Roskoten's experience with jaborandi, I produced a more profuse and long-continued diaphoresis than formerly, using liquor ammoniæ acetatis, warm drinks, and applications instead of jaborandi when the age or physical condition of my patients contraindicated the use of that drug. While I consider sweating an important part of the treatment, yet inasmuch as on three occasions the disease was stayed when no marked diaphoresis was produced, I feel justified in considering the ergot the most effectual part of the medication.

The formula I use in pneumonias up to the time when the disease is thoroughly established is as follows:

℞. Ext. ergotæ fld..... ℥xx.
Tinc. aconite rad..... ℥i.–ij.
Liq. ammo. acet..... ʒ iiiss.
Syr. tolut..... q. s. ad ℥ ss.
M. Sig.: To be taken every two hours.

The dosage of the above is of course regulated to the age, but the same ingredients are used for all ages. This, together with mild counter-irritants to the chest, warm drinks and applications, the cotton vest, and such symptomatic treatment as each case required, has given me the results herewith presented.

Case I.—Georgie B——, aged three. Sickness began as a coryza on October 26th, followed by some coughing and a light fever on the 27th. He continued to grow worse, and I was called on the 28th. At 10 P.M. I found pulse, 140; respirations, 44; temperature, 100.8° F. The alæ of the nose moved with the respirations; expiratory grunt. Percussion showed diminished resonance over the lower part of the left lung latero-anteriorly. Over this area auscultation revealed a roughened respiratory murmur and partially developed bronchial breathing. Other parts of chest gave evidence of bronchitis only. The next morning there was evident improvement in all symptoms, the temperature rising to 99.8° F. The day following this the temperature was normal. Percussion dulness had disappeared, the abnormal respiratory sounds receding more gradually. Convalescence was uninterrupted.

Case II.—Baby B——, aged two and one half months. Disease began as a bronchitis on November 1st, and so continued until the 10th, when it became much worse (when I was called), the infant just having had a convulsion. Breathing was rapid, cough painful, expiratory grunt after coughing, alæ of the nose moved slightly, temperature nearly 102° F. Impaired resonance on percussion over upper part of left lung anteriorly, with a localized roughened respiratory murmur and bronchial breathing; no râles other than those of bronchitis. The next morning there was less fever and evident improvement. Twenty-four hours later temperature was normal and respiration quiet, cough remaining, but less troublesome and frequent. Improvement steady, physical signs of disease entirely disappearing.

Case III.—Georgie B—— (same individual as Case I.). Taken sick as before with coryza November 9th, a light fever continuing until the 12th. I found the temperature, 100° F.; cough, respirations slightly accelerated, diminished resonance on percussion over lower part left lung (same area as was affected in the last sickness), localized rough respiratory murmur and bronchial breathing. In the afternoon the temperature reached 105° F.; pulse, 133; respirations, 44; and there was apparent dulness where the resonance had been only impaired slightly in the morning, marked bronchial breathing. The next morning the temperature was normal, but rose to 102.5° F. in the evening, with respirations reduced to 20 per minute. Dulness had disappeared, the localized roughened respiratory murmur only remaining. The temperature continued between 101.5° F. and 102.3° F. until the 15th, the distinctively pneumonic signs disappearing, dulness having entirely disappeared and the normal vesicular murmur taking the place of the rough and bronchial breathing. Large, moist râles over both lungs. On that date (15th) the temperature rose to 104° F., and respirations to 40. Physical examination showed that the area formerly affected remained normal, but above and anterior to it was a newly developed patch of dulness and roughened respiratory sounds. The ergot mixture, which had been discontinued on the 14th, was again prescribed, and in twenty four hours temperature and respirations were normal, and so remained. Recovery was steady and uneventful, physical signs of pneumonia disappearing, dulness first, then more slowly the abnormal sounds.

Case IV.—John N——, aged twenty; had had a cough for several days when I was called, November 13th, midnight. Temperature normal, respirations slow and labored, frothy yellowish expectoration, no dulness, whistling râles and large moist râles over both lungs. Evidently only asthma with bronchitis, and I prescribed for that condition.

November 14th, asthma improved, otherwise worse. Temperature, 101.7°F.; pulse, 120; respirations, 22. Profuse frothy expectoration, tinged with blood. Dulness over the middle portion of the left lung antero-laterally. Auscultation gives the same results as yesterday, except over the area of dulness there is bronchial breathing with fine, moist râles, also a localized increased vocal fremitus. In twenty-four hours the temperature was normal, and respirations 18; the expectoration had diminished in quantity and the color had changed back to yellowish-white. The chest was examined on the 16th; no subcrepitant râles or bronchial breathing or impaired resonance on percussion, only large, moist râles of bronchitis remaining. Convalescence was uninterrupted except by a trivial alimentary disturbance on the 16th.

Case V.—Mrs. R——, aged seventy-seven, after symptoms of bronchitis for several days was taken, on November 14th with pain in the right side of the chest; cough, yellowish expectoration; temperature, 100.6° F.; respirations, 32; pulse, 98.

Percussion showed loss of normal resonance over the anterior surface of the upper part of the right side of the chest. Auscultation gave bronchial breathing restricted to the area of partial dulness. The characteristic râles of asthma were heard over both lungs. Increased vocal fremitus over the area of dulness. At my next visit, in eleven hours, the temperature was 97.6° F.; respirations, 22; pulse, 63. Dulness had vanished, but rough respiratory murmur was still present. This gradually gave way to the normal vesicular murmur. Recovery was uninterrupted, the temperature rising to normal and then remaining.

It is quite possible that Cases IV. and V. were of the lobar form of disease, although many facts, and especially the early history of the cases, militate against that theory. At times it is impossible to differentiate between the catarrhal and lobar forms.

In the above cases, in physical examination, careful comparison was made between the same areas on both sides of the chest. These cases are submitted without further comment, with the hope that the future will establish the promise that in ergot we possess an agent with which we may be materially assisted in successfully combating pulmonary inflammation in early stages.

Since the above was written I have been called again to Georgie B——. He recovered from the last attack of pneumonia, only a slight cough remaining. He was taken sick for the third time this fall, November 28th. The next day, when I was called, the temperature was 102.9° F.; respirations, 34; pulse, 155; there was loss of resonance over the entire left lung anteriorly, and the lower part posteriorly; bronchial breathing over the entire lung; only large, moist râles discovered.

Under treatment in forty-eight hours there was marked improvement, the temperature being only one-half degree above normal, and respirations 25; there was a marked lessening in the degree of dulness, and a returning vesicular murmur over a large part of the affected area; bronchial breathing, although of less intensity, remaining at a few points.

The case here returned to the hands of the regular medical attendant of the family, who had been temporarily disabled.

R. T. STRATTON, M.D.

OAKLAND, CAL.

Therapeutic Hints.

How to Apply Trichloracetic Acid.—Dr. C. Wegele, writing in the *Allgemeine Medicinische Central-Zeitung*, recommends the following method for the application to a limited area of trichloracetic acid. He takes an ordinary tunnelled sound, nickel or silver plated, having a deep but narrow gutter, and engages one or more crystals in the anterior portion of the gutter by passing the sound into the bottle containing the acid and pressing it against the side. Then the sides of the sound are carefully wiped clean of any acid adhering to them, and it is ready for use. By this means it is possible to cauterize any limited portion of the nasal cavity, for example, without the danger of touching any other part with the acid.

Belladonna in Biliary Colic.—Dr. G. Sticker, of Cologne, finds belladonna a very useful remedy for the colic caused by the passage of a gall-stone. Its direct anodyne effect is much less than that of opium, but it seems to possess the power of rendering the subsequent attacks less frequent and less severe. The author explains its action by a paralyzing effect upon the circular muscular fibres of the ductus choledochus. The drug is especially indicated in those cases in which the stone has become arrested in the duct and the attacks of colic are frequent and moderately severe; but when the pain is excessive and symptoms of collapse are threatening, recourse must be had rather to opium. He gives a solution of the aqueous extract, gr. ij.-iij. in one ounce of water, of which the dose is 20 drops every thirty to sixty minutes.—*Münchner Medicinische Wochenschrift*, No. 35, 1891.

Benzoate of Mercury for Buboes.—Dr. Nelander claims to have had excellent results in the treatment of buboes by the injection of benzoate of mercury (*Archiv für Dermatologie und Syphilis*, No. 3, 1891). In those cases which are not too far advanced he succeeds nearly always in preventing suppuration, and even when moderate fluctuation is present it is often possible to promote absorption by these injections, and thus do away with the necessity of an incision.

The Care of the Mouth.—In a recently published work Dr. Thomas, a German physician, calls attention to the great prophylactic value of buccal cleanliness. The best dentifrice, he says, is soap, which dissolves the mucus and removes it from between the teeth more thoroughly than any other substance. After a careful brushing with soap or with the tincture of soap-bark (quillaya saponaria), some antiseptic should be used. The most efficient antiseptics for this purpose, either of which is capable of destroying the micro-organism in one minute, are thymol, 1 to 25,000, and corrosive sublimate, 1 to 5,000. The following is recommended as a useful and pleasant buccal disinfectant:

℞.	Thymol	gr. iij.
	Benzoic acid	gr. xl.
	Tincture of eucalyptus	ʒ iij.
	Essence of peppermint	♏ x.
	Alcohol	ʒ iij.

M. Sig.: Pour enough in a glass of water to render it turbid and use as a mouth wash.

Hereditary Syphilis.—The following was used by Mr. Jonathan Hutchinson with good effect in the case of an infant, some two months of age, afflicted with hereditary syphilis (*Archives of Surgery*, vol. ii., November 8, 1891):

℞.	Iodide of potassium	gr. ss.
	Solution of bichloride of mercury	♏ x.
	Spirits of wine	♏ iv.
	Water	ʒ j.

M. Sig.: To be taken three times a day.

The liquor hydrargyri perchloridi of the B. P. has one grain each of corrosive sublimate and chloride of ammonium, in two ounces of distilled water.

Plaster-of-Paris Formulas.—1. *To Make Plaster Set Hard.*—Mix best plaster-of-Paris with about ten per cent.—more or less, according to effect ascertained by preliminary experiment—of very finely powdered marble (calcium carbonate). Or add to it about six per cent. of powdered alum, or about the same amount of ammonium chloride, before mixing it with water. 2. *To Make Plaster Set Slower.*—Mix it with two to four per cent. of powdered althæa root before adding the water. This not only retards the hardening of the plaster, but also enables it to be cut, filed, sawed, and turned. An addition of eight per cent. of althæa powder retards the complete setting of the plaster for about one hour, so that the mass can be used for any purpose where it is to remain plastic during at least a portion of that time.—*American Druggist.*

Old Tinctures.—Great care should be taken in administering remedies in the form of tinctures which have stood for a long time in small vials in the family medicine closet. When the bottles happen to be loosely corked the alcohol readily evaporates, leaving the drug in the form of a concentrated tincture, the pharmacopœial dose of which might produce very serious, if not fatal, results.

Œdema of the Glottis.—Pilocarpine has been used with good effect in œdema glottidis. The remedy is used hypodermically in doses of $\frac{1}{16}$ grain, at intervals of twenty minutes. Improvement is noted after the first injection, and usually not more than three doses are given before all dangerous symptoms have disappeared.

Irritability of the Bladder.—Powdered nutmeg has given good results in cases of irritability of the bladder from various causes. It is said that in South Germany, especially in Munich, this is a very popular remedy for dysuria, caused by the too free use of new beer. As much of the powder as can be taken on the tip of a knife-blade may be given several times a day.

Methylene Blue in Malaria.—Drs. Guttmann and Ehrlich publish in the *Berliner Klinische Wochenschrift*, No. 39, 1891, the results of some experiments made by them in the treatment of malarial fever by methylene blue. They used it in a few cases only, but found that it

exerted a most beneficial effect in cutting short the disease. The pyrexial attacks disappeared in the course of the first few days after the drug was exhibited, and within eight days at the longest the plasmodia were no longer to be found in the blood. The remedy was exhibited in gelatine capsules in doses of 1½ grain at intervals of from one to three hours until five had been taken.

Oil of Wintergreen in Gonorrhœa.—Dr. J. A. Wyeth has obtained good results in gonorrhœa by the administration of oil of wintergreen in doses of six drops three times a day.

Cyanide of Mercury in Diphtheria.—Dr. De Ruelle claims to have obtained good results in diphtheria by the internal use of cyanide of mercury, given according to the following formula:

℞. Cyanide of mercury..... gr. ss.
Alcohol (90°)..... ʒ jss.
Distilled water..... ʒ iv.
M. Sig.: A teaspoonful every hour.

Camphor in Influenza.—The following is said by Dr. Devereux (*British Medical Journal*) to have given more satisfactory results in the treatment of influenza than any of the more commonly employed remedies:

℞. Spirits of camphor,
Compound tincture of lavender.....ää ʒ ij.
Spirits of chloroform..... ʒ j.
Mucilage of tragacanth..... ℥ j.
Distilled water..... ʒ iij.
M. Sig.: Tablespoonful every four hours.

Uniting the Edges of Scalp Wounds Without Sutures.—Dr. Delassus says, in the *Journal des Sciences Médicales de Lille* for October 2, 1891, that he finds it of advantage to retain the edges of a scalp wound in apposition by means of the hair instead of sutures. When the hairs are long enough he ties together those on opposite sides of the wound; when they are too short for this purpose, he has the edges of the wound held closely in apposition by an assistant, then places the hairs from the two sides in small twisted bundles, crosses them without attempting to tie them, and while they are held in this position tightly stretched, he passes a silk thread around them and ties it firmly. In this way the bundles from opposite sides of the wound are bound together, and thus obviate the necessity of an additional wounding of the scalp by the insertion of sutures.

Renal Colic.—The following has been recommended:

℞. Salicylate of sodium,
Bicarbonate of sodium.....ää ʒ ij.
M. Divide into eight powders, one to be taken every hour.

Straw Ashes as a Material for Surgical Dressing.—Dr. T. Kikuchi, of the Japanese Army, writes in the *Sei-I-Kwai Medical Journal*, November 9, 1891, on the value of ashes obtained by burning rice straw as a material for surgical dressings. He finds that they possess the advantages of being rich in absorbent power, soft and elastic, cheap, aseptic, and easily obtainable. He reports several cases of injury in soldiers in which he used this dressing with good results. The ashes were enclosed in gauze bags of various sizes, and applied as desired.

Paraffin in Diphtheria.—Dr. Turner, of Gloucester, has obtained excellent results in the treatment of diphtheria from the local application of paraffin (*British Medical Journal*, September 19, 1891.) The applications are made every hour by means of a camel's-hair brush, and the ordinary oil used in lamps is employed.

There are One Hundred and Fifty-three Medical Journals in Paris, including eight pharmaceutical papers, and only one hundred and sixty-one papers of the lay press.

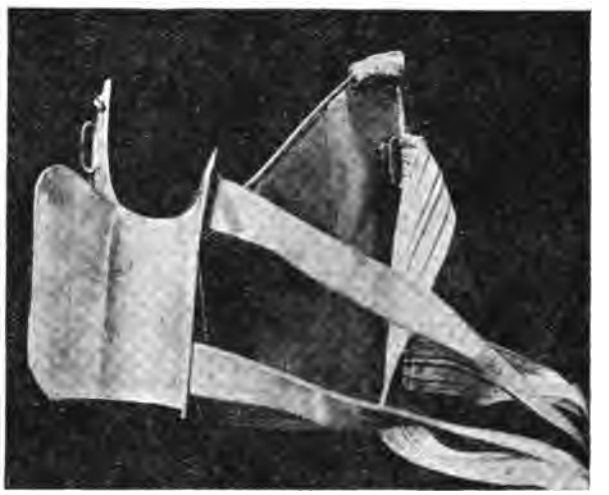
Aristol by insufflation is recommended by Dr. Fitzpatrick in the treatment of epistaxis.

New Instruments.

A SPLINT FOR FIXATION OF THE SHOULDER.

By RALPH CROSS HUSE, M.D.,
GEORGETOWN, MASS.

THE splint here shown was devised by me some ten years ago, for use in any case in which fixation of the shoulder is desired, as in fracture, or after excision of the head of the humerus. I send it to the MEDICAL RECORD, hoping it may be of benefit to other physicians; any tin-worker can make it, at small expense. Its advantages are comfort to the patient, absolute rest to the parts, security of position, and simplicity in construction. It is strapped around the body by two pieces of webbing with buckles,



slung from the opposite shoulder, which gives it additional support, and allows the patient more freedom in getting about than anything I have ever met with. The results from its use are all that security, firmness, and comfort can contribute to bring about in the treatment of troubles to which this is directed.

The arm is strapped to the cylindrical part with the addition of any coaptation splint, and once the splint is in position the case goes on to recovery.

The splint should be right and left, or one for each side, well "rounded out" under the arm to fit the axilla, and the angle of the cylindrical, or arm part, may be fixed at the practitioner's fancy.

EYE-DRAIN AND IRRIGATOR FOR USE IN PURULENT CONJUNCTIVITIS.

By E. L. OATMAN, M.D.,
NYACK, N. Y.

THE greatest obstacle to the satisfactory treatment of acute destructive conjunctivitis, especially the severe purulent form, epidemics of which are frequently encountered in our overcrowded juvenile asylums, is the imperfect means and methods employed in cleansing the eyes.

That the eyes in such cases may be freely irrigated, without at the same time wetting the patients and bedding, I employ drains constructed as follows: The frame of flexible copper is covered with gutta percha, this passes across the forehead and encircles the eyes as far as the nose. To the sides are attached soft rubber cups which collect the waste fluid and discharge it through tubes into a basin on the floor. The flexible copper permits the apparatus to be accurately moulded to the form of the face, and its successful operation will depend on the care with which this is done. An adjustable steel spring fitting over the frame presses it firmly against the cheeks. The spring is made separately and only applied during the cleansing process, as its long-continued press-

ure might prove painful; although if intelligently adjusted, with only sufficient force to prevent leakage, it may be worn continuously for hours or days.

When it is desirable to keep a gentle stream of water, hot or cold, flowing constantly over the lids, and the patient cannot command the undivided attention of a nurse, I use an irrigator in which the fluid is delivered through a rubber tube wound outside with stout soft copper wire. Such a tube when bent will retain its position, and we are thus enabled to discharge the stream in any direction, or at any angle. An iron frame attached to the head of the bed supports the tube and a reservoir.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 6, 1891, to December 12, 1891.

FISHER, WALTER W. R., Captain and Assistant Surgeon. Relieved from duty at Fort Assiniboine, Mont., and ordered to Fort Columbus, New York Harbor, for duty at that station.

WOODRUFF, CHARLES E., First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Missoula, Mont., and ordered to Fort Assiniboine, Mont., for duty at that station.

PATZKI, JULIUS H., Major and Surgeon. By direction of the President, will report in person to the President of the Army Retiring Board, at Fort Leavenworth, Kan., for examination by the board.

TAYLOR, ARTHUR W., Captain and Assistant Surgeon. Having been found incapacitated for active service, is granted leave of absence until further orders, on account of disability.

SHILLOCK, PAUL, First Lieutenant and Assistant Surgeon. Granted leave of absence for fifteen days.

HOPKINS, WILLIAM E., Captain and Assistant Surgeon. Resignation accepted by the President, to take effect April 5, 1892, and granted leave of absence to include that date.

MIDDLETON, PASSMORE, Major and Surgeon. Having been found incapacitated for active service by reason of disability incident to the service, is, by direction of the President, retired from active service.

Official List of Changes in the Medical Corps of the United States Navy for the week ending December 12, 1891.

MORRIS, LEWIS, Assistant Surgeon. Detached from the Navy Yard, League Island, Pa., and ordered to the Receiving Ship St. Louis, at that yard.

HARRIS, H. N. T., Assistant Surgeon. Detached from the Receiving Ship St. Louis, and ordered to the Navy Yard, League Island, Pa.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 12, 1891.

	Cases.	Deaths
Typhus fever	0	0
Typhoid fever	28	5
Scarlet fever	157	22
Cerebro-spinal meningitis	1	2
Measles	70	8
Diphtheria	120	31
Small-pox	0	0
Varicella	12	0
Pertussis	0	4
Erysipelas	1	0
Mumps	1	0
Rötheln	0	0

Benzoate of Naphthol β, a New Intestinal Antiseptic.—The insolubility of the higher aromatic compounds has till recently been a great obstacle to their study as antiseptics. The naphthols, especially naphthol β, have been for some time administered as intestinal antiseptics, but it was soon found that a compound of naphthol β with salicylic acid, introduced under the name of betol, was more efficient. This substance varied considerably in composition, and was also inadmissible when on account of renal disease salicylic acid was contraindicated. Other organic acids will, however, form similar compounds with naphthol β, and Yvon and Berlioz (*Sem. Méd.*, October 28, 1891) have fixed upon benzoic acid as likely to form a useful combination, for it is less toxic and a more powerful antiseptic than salicylic acid. By treating naphthol β with benzoyl chloride under certain conditions and purifying by crystallization, from alcohol they obtain a compound which is a benzoate of naphthol β, or "benzonaphthol," soluble in alcohol or chloroform, but very feebly soluble in water or ether. This compound when introduced into the intestine breaks up into naphthol β (which remains in the intestine) and benzoic acid, which is eliminated by the kidneys in the form of alkaline salts and alkaline hippurates. Although at present experience with the new drug is somewhat small, the following conclusions may be stated as to its action: 1, It is very slightly poisonous; 2, it is an antiseptic as powerful as its congeners; 3, it encourages diuresis, the absorbed portion being rapidly eliminated by the urine; and 4, it can be given in large doses, but it is advised to give small and frequently repeated doses rather than single large quantities. More than a drachm daily has been administered to an adult.

A Medical Centenarian.—The death is reported at Bordeaux of Dr. Stanislas Zalewski, a Polish refugee. Born in 1780, on Christmas Day, he had consequently at his death almost reached his 111th year. This veteran was a scion of the once powerful house of Zalewski, whose estates were confiscated by the Russian Government. Banished from his native land, Dr. Zalewski practised medicine for a long series of years at Bordeaux; thirty years ago, however, the encroachments of old age compelled him to resign practice. Since his retirement he had subsisted on a very modest pension allowed him by the government of his adopted country. His historical *souvenirs* were, as might be expected, most interesting, reaching back to the tragic events that marked the close of the last and the early part of the present century. Thus, he saw Napoleon the First reviewing his army at Moscow; and, peering timidly through a window and nestling against his weeping mother, he was a witness of the execution of Louis XVI. Until quite recently this relic of a past age enjoyed good health, and his faculties are said to have remained unimpaired to the last.—*The Lancet.*

Medical Record

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Original Articles.

DIET AND EXERCISE IN THE TREATMENT OF SIMPLE CHRONIC INFLAMMATION.[1]

BY J. C. MULHALL, M.D.,

ST. LOUIS, MO.,

PROFESSOR OF DISEASES OF CHEST AND THROAT, BEAUMONT HOSPITAL MEDICAL COLLEGE; CONSULTANT IN CHEST AND THROAT DISEASES TO ALEXIAN BROTHERS' HOSPITAL, ST. MARY'S INFIRMARY, SOUTH SIDE DISPENSARY; MEMBER OF THE LARYNGOLOGICAL AND CLIMATOLOGICAL ASSOCIATIONS.

THE subject of my remarks is apparently commonplace, yet many experiences with patients force me to conclude that the dietetic and general hygienic management of individuals with chronic inflammatory disorders is either totally neglected, parenthetically mentioned, insufficiently explained, or made of secondary importance to treatment by drugs by a large number of physicians.

Yet I venture to lay before you the proposition that for the cure—real, not transitory—of a chronic inflammation, surgical treatment excluded, nine-tenths of the success will be due to skilful dietetic and hygienic management, and one-tenth to drugs, locally or systemically applied.

To select a common example, chronic nasal catarrh. I beg to declare that, atrophy, deformity, or permanent obstruction being absent, the above proposition is strictly correct; that the correct management of clothing, food, exercise, atmosphere, skilfully applied according to individual cases, will do nine-tenths, and medication, local and systemic, one-tenth, of whatever good may be accomplished.

The testimony of many patients, that the selection and preparation of their food, the manner and amount of physical exercise had not been insisted on by former medical advisers form the ground for my assertion.

If, then, my proposition and assertion be true, no further apology is necessary for the triteness of my subject.

It may be stated, broadly, that the vast majority of simple, non-specific chronic inflammations in the human body are caused by the faulty habits of the individual. There are exceptions. For example: where the intensity of an acute process has produced such anatomical death that regeneration of tissue is impossible; to illustrate my meaning, that incurable disease, atrophic rhinitis, rapidly following diphtheritic or scarlatinal rhinitis. Trace the life of an individual, from a hygienic standpoint, with constipation, hæmorrhoids, leucorrhœa, endometritis, intestinal or stomachic indigestion, hepatitis, myocarditis, bronchitis, laryngitis, pharyngitis, rhinitis, eczema, neurasthenia, and a host of other disorders, and you will find in one or many ways that the laws of health have been long and grievously transgressed. The one has been overfed, underfed, or badly fed, the other has neglected physical exercise. All other causes combined, including alcoholic excesses, are as nothing when compared with errors in diet and exercise in producing simple chronic inflammation.

It is to these two causes, dyspepsia and perverted nutrition, physical inactivity, and toneless muscles, nerves, and glands, that I attribute the extraordinary prevalence of chronic nasal catarrh in the United States. Our climate, our macadam streets, our furnace-heated houses, are but subsidiary to these two great primal causes. I have lived in many countries, and nowhere are candy, pastry, ice-water, and hot bread consumed as by my countrymen, the Americans. In no country is food bolted so hastily; and, to heap error on error, nowhere is less attention given to physical exercise. Let me give an illustration that may also serve to dissipate reproach to our St. Louis climate. Eighteen months ago, a young gentleman of this city, Mr. Clark T——, came to me with the following history: From the age of twelve to twenty he had been a sufferer from more or less distressing chronic nasal catarrh. He had been subjected to much local treatment with but temporary relief. At the age of twenty he accepted a position in a small town in the State of Kansas. In the course of a year, without treatment, his nasal symptoms disappeared, and he remained well until, at the age of twenty-four, he returned to St. Louis. In the course of six months his old symptoms reappeared. He consulted the same specialist, but without relief. He naturally concluded that the St. Louis climate did not agree with him and had concluded to return to Kansas. I found him a plethoric, robust man, suffering the usual train of symptoms of chronic hypertrophic nasal catarrh, including violent and frequent headache. Direct questioning elicited the following: In Kansas he earned fifty dollars per month, out of which he clothed and boarded himself, was occupied in a bank from nine until three, and spent a part of nearly every day fishing or shooting.

In St. Louis he earned double the salary, out of which he did not pay for board and lodging, since he lived at his father's house, a wealthy man, fond of supplying his table with every luxury. The son was occupied from eight till six, and he never walked to or from business, in fact, took no physical exercise.

There was therefore, on the one hand, in Kansas frugal diet, short business hours, much exhilarating exercise in the open air, and no temptation to dissipate; and on the other, a rich and generous diet, no physical exercise, and more money to gratify the desires which the late hours of a large city spread before one. When I presented the two pictures to him he agreed that there might be other factors besides the relative atmosphere of the small Kansas town and St. Louis.

His face suffused easily on exertion, his bowels were inactive, his urine turbid—in a word, here was an individual in a high state of hypernutrition with defective elimination. Tonsils, pharynx, and nasal erectile tissue were in a state of vascular engorgement. How absurd to think of curing such an individual with local treatment! I was reminded of the advice of the great Abernethy to the rich and corpulent dyspeptic, "Earn a shilling a day and live off it."

He was ordered to live as he did in Kansas, all the luxuries of the table were denied him. He was ordered to walk rapidly two miles in the morning, and the like distance in the evening. From twelve to one, his lunch hour, he joined in the calisthenic exercises pursued at the Missouri Gymnasium, and partook of a very light lunch.

The hypertrophied areas in nose and throat were destroyed with the galvano-caustic, beyond which no local treatment was adopted. His diet and exercise were carefully regulated from time to time as I judged best.

This training process lasted six months, and ended in complete recovery. For the past year his weight and

[1] Read before the St. Louis Medico-Chirurgical Society, St. Louis Medical Society, and Missouri State Medical Association.

height correspond, he is stronger, though he weighs twenty pounds less, his bowels are regular, the urine clear, his nostrils unobstructed, he has not had a single headache, and in his case the question so often asked, "Is catarrh curable?" has been answered.

Here I may mention another case of nasal trouble, where the blunder of pursuing local treatment, to the exclusion of hygienic measures, merely increased the distress of the sufferer. Two years ago a policeman, aged fifty, consulted me, complaining that for several months he had suffered from "catarrh," as so called by two rhinologists who had assiduously sprayed his nose, to his increasing discomfort. The nasal discharge was profuse, like distilled water, occasionally mucoid in character, saturating from three to ten handkerchiefs daily. The nasal mucous membrane was found to be pallid and very irritable, the picture not of an inflammatory trouble, but of a vaso-motor paresis; other symptoms pointed to the disorder as a neurosis. His head and neck sweat easily, his face paled and flushed without apparent cause, the pupils were sluggish, he was nervous, he did not sleep well, and had grown quite irritable. In my endeavor to discover why a man, who all his life had enjoyed good health, had for several months past presented this array of symptoms, I found that for fifteen years he had been a mounted policeman, but that for the past eight months he had been relegated to a stuffy little office to do clerical labor. What a tremendous change in the life of an individual! His nose was not touched, no drug was administered. An explanation to the proper authorities secured for him a return to his horseback life, and within a month every morbid symptom had disappeared. I have seen him within a month and the cure remains perfect.

The good influence of diet and exercise has been remarkably exemplified to me in the persons of two prize fighters, who applied to me for the treatment of chronic nasal inflammation. Nearly all of these men, in the intervals between their prize-ring encounters, are in a state of atonic hypernutrition from excessive eating and spirit drinking, combined with physical inactivity; their bodies are filled with effete material. These men had tried many kinds of local medications, regular and irregular, with little or no relief, but both admitted, on direct questioning, that they had experienced absolute relief after they had undergone a system of training preparatory to entering the prize-ring for an encounter. Both again admitted that, after several weeks' return to their former bar-room lives, all their nasal symptoms reappeared.

Mr. B——, aged thirty-six, senior member of a well-known firm of wire-rope makers in this city, will tell anyone who asks him the following: He had for several years suffered from obstructive nasal catarrh, with viscid mucus and aching brows. He received local treatment at the hands of two specialists without relief. He began playing hand-ball three times weekly, finishing after each occasion with a shower-bath and vigorous rubbing. I shall not delay to explain why hand-ball is one of the finest of physical exercises. It completely cured him in three months of his nasal troubles.

Lest some critic, idiotically carping, should suggest that all cannot become prize-fighters or hand-ball players, I here say that I adduce these as illustrations of the soundness of my argument, as to the value of exercise in the cure of chronic inflammation. Let any of my hearers who, while he has not an acute coryza, has a feeling of dryness and stuffiness in the nostrils, take a rapid walk of two miles, and he will find that his nostrils have become freer, their mucous membrane moist, and there will be impressed on him the idea that chronic exercise may cure chronically stuffed noses.

I incidentally mentioned simple chronic endometritis. A lady friend and patient lately informed me that one of our best known gynecologists had packed the vagina with variously medicated cotton tampons and painted the wound weekly for fifteen months, with absolutely no success. What a loss of time and money and respect for the medical profession! She placed herself in the hands of two women doctors, who, practising hygiene of the body alone, without touching womb or vagina, cured her. What a comment on the absurdity of drugs as compared with an enforcement of those laws of nature which control elimination and assimilation, and equalize vascularity in the organs! The American woman with her crooked womb cannot exercise, because it produces dragging pains in her back, and there is nothing left for her but a pessary and a drug.

The most magnificent tonic for the sluggish pelvic organs is the Swedish movement-cure, a series of movements designed for the cure of chronic constipation, a condition very common in our American women, and one which all the drugs on earth will not cure. When, incidental to chronic affections of heart, lungs, or throat, I have encountered chronic constipation, I have made it a rule to first cure, if possible, this latter condition, and I cannot praise too highly the Swedish movement-cure. After two or three weeks, a daily evacuation is secured, when two or three of the movements, with dieting, will secure daily evacuation. I do not mean to imply that the science of gynecology can be reduced to a hop, skip, and a jump; I but wish to say that in simple chronic womb inflammations, as elsewhere in the body, diet and exercise are by all odds the most important of curative measures. The Swedish cure is a proof that there is a scientific method of prescribing exercise.

Disorders of digestion frequently exhibit pathological reflexes on the respiratory track. The dyspeptic throat is fairly well known, but I have yet to read of the dyspeptic nose. If disorders in diet and exercise will produce piles in some individuals, why will not like errors, in other individuals, produce vascular changes in the nasal erectile tissue, where the cavernous sinuses have even less support than in the rectum? Over and over again have patients with nasal catarrh admitted to me that faulty digestion aggravated the nasal symptoms. Several have given me the curious information that the nasal discharge, always odorless, became fetid when suffering from bilious attacks.

All the great operatic singers are aware of two facts: one, that they cannot sing with precision after a full meal, the other that a bilious attack may entirely deprive them of the power of singing their scores. The soft parts in the larynx seem puffy, the cords are congested, the laryngeal movements lack snap and vigor. Local treatment merely aggravates such a condition.

Starvation diet, vigorous exercise, a blue pill followed by a saline, and the vocal disabilities disappear. How easy to understand that the cure of chronic stomach or intestinal catarrh may be of every importance in the treatment of chronic laryngitis or pharyngitis! The latter is very seldom a primary disorder; a mucous membrane so constructed as to admit of the tri-daily friction of food does not readily yield its health. Chronic pharyngitis is often but the expression of a disordered alimentary canal. I have known it to disappear after the cure of chronic constipation. Local treatment usually aggravates, never cures, the dyspeptic throat. Let me here cite an instructive case, as it not only exhibits the cure of such a throat, but the cure of several co-incident ailments.

Mr. P——, of Hannibal, Mo., consulted me last year concerning his throat, about which he had become disheartened, since he had submitted to tri-weekly local applications, extending over a period of three months, without relief. He also had insomnia, loss of memory, piles, constipation, flatulence, with occasional wandering pains. He was six feet high and weighed two hundred and fifty pounds. These symptoms and increase of weight were co-incident, and had accumulated within five years. Previous to this he had been a carpenter, undergoing physical labor every day, and subsisting with his family by the sweat of his brow. At that time he had

suddenly grown comparatively wealthy, abandoned all physical labor, and had since lived on the fat of the land. With his wealth and luxurious habits began his ill health. He was placed on a frugal diet, given daily severe exercise, lost forty pounds in three months, when every morbid symptom disappeared. No kind of medicinal treatment was pursued.

When such reflex hyperæmias have existed sufficiently long, solid hyperplasias often result, and these can be seldom removed by any system of hygiene, and must be attacked surgically. In nose, pharynx, and larynx such thickenings can easily be removed, but the bronchial tubes are inaccessible, and the hypertrophied mucous membrane often remains in spite of the utmost precision in the hygienic life of the individual, including appropriate climatic aid. Drainage is not here so perfect as in the upper air-passages, and again, chronic bronchial catarrh is very frequently the sequel of an acute attack in childhood which has produced irrecoverable anatomical change; still, the results obtained by perfect hygiene are far more brilliant than those resulting from medication. As an example of dyspeptic bronchial tube, I have often seen the following clinical picture: A patient complains of having "caught cold" in his chest. He has had a subacute bronchial catarrh. It has persisted several weeks and its obstinacy alarms him, the more so that other such attacks have persisted but a week or two. He has taken the usual expectorants, used counter-irritation, but the cough persists; he finds his tongue flabby and coated, food is repugnant to him, his bowels are sluggish, his digestion is bad—in a word, he is "bilious." The correction of this evil is at once followed by a disappearance of the cough. Expectorants can but aggravate the digestive disorder, unless they perchance produce vomiting and complete loss of appetite.

I have in my own person a mild type of chronic bronchial catarrh, caused, I think, by the inhalation of tobacco smoke, pursued now for twenty years. My expectoration is mucoid, and so easily expelled that I am hardly conscious that I cough. I have had occasional bilious attacks, and invariably on these occasions my cough tightens, the mucus becomes viscid, acquires a musty taste, and is difficult of expulsion. I have, by patient inquiry, elicited the same facts from a large number of sufferers with chronic bronchitis. Such clinical facts clearly indicate the influence of digestive disorders upon those within the chest, and should make us pause before rushing to the prescription blank. When all the excretory functions of the bronchitic are physiologically active, when his constipation has been cured, when his skin is made insensitive to temperature changes, when his food and exercise have been regulated to a nicety, these are the true expectorants and tonics.

If we consider the functional and organic diseases of the heart, my experience is that it is very seldom that a former medical adviser has not been careful to inquire into the condition of stomach and bowel in the functional cases, but that very frequently in the organic cases the health of the alimentary canal has not been supervised, nor has exercise been scientifically dictated.

The long, sighing inspiration, the flatulent sigh, the sense of oppression in chest or throat, the dyspnœa caused by the stomach distended with gas, is explained, I think, as follows: The inflation of the stomach with gas causes it to press against the bases of the lungs, thus mechanically interfering with the oxygenation of the basal air-vesicles during quick respiration. The patient then feels a sense of air-hunger, and a long forcible inspiration follows, which for a time sufficiently aerates the oxygen-hungry vesicles at the pulmonic bases. This balloon-stomach also mechanically interferes with the movements of the heart, and its irregular action often ensues. The fluttering heart, the chest oppression thus produced, cause the patient to suspect heart disease. I have twice been called to see rheumatic subjects, in consultation, where such a condition had suggested beginning cardiac rheumatism. In one the tympanitic note was elicited even in the left axilla, and at mid-sternum. A stomach-tube quickly restored peace. I have known this balloon-stomach to produce convulsions and unconsciousness. I can only explain the fact that the gas does not escape by assuming that the distention must produce at the pyloric or cardiac orifice, as frequently at the entrance to the œsophagus, spasmodic stricture.

Oertel was the first, I believe, to dispel the old illusion that patients with certain organic affections of the heart should beware of active physical exercise, and his hill-climbing and dietetic treatment in such cases has obtained world-wide recognition and endorsement. Many such patients are condemned to a life of physical inaction by their physicians. The consequence often is that they increase in weight, their muscles become flabby, their systems full of effete material, their capillaries become turgid, their ventricles more and more engorged during diastole, necessitating increased activity during systole, with final lack of compensation. Such a condition often explains why one patient with a certain valvular lesion soon becomes dropsical, while another with the same lesion, but whose diet and physical exercise have been nicely adjusted, goes on for years and years attending to the ordinary duties of life, experiencing little or no evil results from his leaking heart. In no other class of patients is it more important that the weight of the individual should conform to his stature. Every pound of physiological over-weight imposes just so much more labor on the heart. Such an organ, that must supply thirty pounds of useless over-weight, has imposed on it night and day a useless, wearisome labor that finally tells on its muscular fibre.

It is the physical training of the pugilist which enables his heart to withstand the mighty strain that a prolonged encounter puts upon it, and many a fight has been lost by a pugilist for lack of skill in his trainer in preparing his pupil's heart. Once more let me add that I am not endorsing a system of physical training such as pugilists, oarsmen, and athletes generally, undergo in preparing for their events. On the contrary, I am quite sure of the evil effects of such a course. The youth who adds three inches to his biceps with six months of exercise has a badly developed biceps. The flat-chested individual who, as a prophylactic measure to phthisis, develops the girth of his chest three inches within six months, will have an improperly developed chest. Nature resents such sudden attempts at development. While enthusiastic in the knowledge of what physical exercise may do for health, no one is more cautious than I in the way in which it should be done, in each individual; for no laws that govern all cases can be given.

Why are so many physicians neglectful in the matter of prescribing physical exercise? One reason is, I think, in their manner of recommending it. The usual advice is, "you must take more exercise." This usually enters one ear, makes a faint impression on the cerebrum, and departs from the other. Exercise should be prescribed accurately, just as accurately as a drug. If the patient be told that he must walk forty blocks per day, at a certain rate of speed, this is definite advice; and so with whatever exercise is enjoined, its art, manner, duration, degree, and persistence must be explained and insisted on. I tell my patients that unless they do exactly as I dictate, they must in no sense hold me responsible for failure to cure. It is not the fault of our science if the business man or housewife declares he has no time to exercise. It is much easier to take pills, but they will not cure simple chronic inflammation. A dozen houses in our country find it profitable to manufacture pepsine, a drug that merely plays with the physiology of the stomach, a drug that nearly always is prescribed in the imbecile effort to replace diet and exercise. Three quack medicines flourish in the United States where one does in any other civilized country; ours is the country of dyspepsia and catarrh. The American believes in drugs, and that

charlatans discover combinations which the scientific physician cannot. He believes that for every physical evil there exists an antagonizing pill.

Another reason why medical men are careless in advising physical exercise is, that many of them have never experienced in their own persons any kind of physical training. I do not wish to say that a doctor must be a gymnast in order to understand the wonders of physical exercise, but I will be understood when I say that, what one has experienced in his own person is so impressed on him that he in turn is far more apt to impress the like on his patients. Moreover, a personal experience in all methods of physical training naturally gives one a better knowledge as to the method and amount of exercise which should be prescribed to meet a given indication.

To intelligently prescribe exercise presupposes on the part of the physician an excellent knowledge of physical diagnosis. He will commit many a mistake who is not expert in determining the condition of heart and lung. Oertel has reported some brilliant successes in his hill-climbing and dietetic treatment of certain organic heart diseases. How could he select fit cases and determine their progress were he not a master of physical diagnosis? As I have before said, physical exercise is potent for evil as well as good, and no one but a physician, in all that this word means, is the ideal trainer of the bodies of men. I do not pretend in this paper to go into the details of prescribing exercise, but I cannot refrain from mentioning two points. One is, that the exercise should not be selected which is sure to be abandoned after a while, and the other, that the exercise should if possible divert the patient's mind from the fact that it is exercise. The game of hand-ball is one of skill and pleasure, and hence is robbed of the incubus which men often feel when they are conscious at the time that they are exercising for the sake of health.

Just as with exercise, so with diet. Many physicians are not painstaking and exact in their advice. A case will illustrate. I lately congratulated a lady friend, who had always been a sufferer from some ailment, on her appearance of health. She assured me of her perfect health, and declared her gratitude to Dr. Hardaway, whom she had consulted for some disease of the skin, and who found it necessary to cure her dyspepsia, to which she had been a martyr for years. He succeeded in this where others had failed, and her explanation was as follows: "The other physicians all told me I must diet, but Dr. Hardaway was the only one to write down what I could eat, when I could eat, and how it should be cooked."

To simply tell a patient to diet himself is usually utterly meaningless to him. He must be informed about every article of diet, and frequently how it should be prepared. This presupposes on the part of the physician knowledge, not only of the nutritive value and digestibility of the various foods, but also a certain knowledge of the art of cooking; for the method of preparing food creates dyspepsia as well as the nature of food. Many physicians have no time to go into such detail. I may inform them that the great London physician, Sir Andrew Clark, takes the trouble to write out these things for his patients. He has no printed dietary. Every patient has peculiarities that modify prescriptions of diet and exercise.

If the patient be an invalid totally incapable of exercise, how important it becomes to enter into every detail of diet!

It matters little to the hod-carrier whether his food be indigestible or badly cooked. He is ignorant of the existence of a stomach, earns his bread by the sweat of his brow, and digests pork and cabbage or raw oysters equally well. When physical exercise is indulged in freely the matter of diet is not of much importance. The dyspeptic business man who goes on a shooting trip shortly finds that he may eat what he pleases.

Let me here enter a protest against the mid-day dinner of the American business man. He selects, if it be a good one, the restaurant closest to his place of business, as this saves time and walking. He eats a solid dinner, always hurriedly, for he is in the midst of his business day; he rushes back to his office, crushing the natural inertia following a full meal, and before digestion is fairly commenced his brain is whirling in the excitement of making the almighty dollar. I believe that this custom alone causes an enormous amount of disease. Is it not reasonable to assume that the heavy meal of the day is better eaten when the day's work is done, when one can take time to eat, surrounded, perhaps, by the cheerful influence of wife and children, and afterward quietly sit and give digestion a chance. Every animal, including man, is disposed to mental and physical quietude after a full meal. Mothers often protest against the late dinner for their children, on the plea that they would not sleep or digest well. I have nearly always found this observation based upon imperfect reasoning. Such children do not sleep well after a hearty meal because of enfeebled stomachs, produced by long-continued improper diet. The child which has been reared with strict regard to proper diet sleeps peacefully, even directly after a hearty meal. The English child gets stale bread, the American child is allowed hot bread, to give a single illustration of the different plans pursued.

When we analyze the conditions of longevity from practical experience, we always find two factors, temperance in food, and habitual out-door exercise. The lives of Gladstone, Bismarck, Von Moltke, De Lesseps teach us that work does not kill. But, as each relates, each found time for daily physical exercise. Bismarck, alone, somewhat intemperate at table, was restored to health by a strict dietary.

In saying what I have about the influence of exercise and diet, and other hygienic measures, in curing simple chronic inflammation, and the slight value of drugs, I am not reciting theoretical convictions, but telling actual living experiences, based on observations continued for many years.

SOME POINTS IN THE ANATOMY AND PHYSIOLOGY OF THE UTERUS, WITH SPECIAL REFERENCE TO THE ADENOID CHARACTER OF THE ENDOMETRIUM.

By STEWART PATON, M.D.,

NEW YORK.

Comparative anatomy and physiology are of little aid in the endeavor to define and limit the functions of the human uterus. The lessons they teach are merely suggestive, while they only emphasize one fact, viz., the dissimilarity between the menstruation and the œstrum or rut.

In spite of Dr. John Brown's lament, that man's superiority over the lower animals has been called into question by Sir William Turner's discovery of the hippocampus minor in the higer apes, women should experience far less humiliation. Anatomy has drawn sharp lines of demarcation between the human uterus and that of the lower animals, and the complex phenomena of menstruation in women certainly makes her "one farther remove from her anthropomorphic cousin."

There is a singular break in the structural evolution of the human female sexual organs as we trace their transitions, beginning with that large class of fish in which the ovaries are simply nothing more than tubular glands with attendant ducts. Rising in the scale we find the ovaries no longer supplied with continuous ducts, but the Mullerian ducts are subjected to such modifications that an oviduct is supplied for the passage of the ripe ova. Then there is a stationary stage, for it is not until the samopsida are reached that, in the modified Mullerian ducts or oviducts can be seen in the dilatation of the lower part of the tube a suggestion of the mammalian

uterus, which only exhibits important morphological changes in the didelphia and monodelphia.

In the primates the uterus, and more particularly the endometrium, attains a degree of development, which in morphological characteristics as well as in physiological function are distinctive of the higher form of mammalian development. In the structure of the human endometrium can plainly be seen some of the causes of the phenomena which are characteristic of menstruation.

In its life-history during the three periods of development, of activity, and of decline, no organ in the human subject has attracted more interest from the anatomist,

FIG. 1.—Endometrium of Infant, Aged Two.

the physiologist, and the physician than the uterus and its appendages. The early suggestions of Hank and Spiegelberg, and later the confirmatory and original work of Johnstone, Sutton, and Tait, have awakened new interest and not a little surprise in classifying the uterus with the cystogenic or glandular organs, and of depriving the endometrium of its claims as a mucous membrane. Upon the work of Johnstone and Sutton further study of the endometrium must be based.

It is very difficult to obtain a satisfactory section of the human endometrium. We found the most satisfactory sections were those obtained by using a freezing microtome, and the fresh sections were examined unstained. The accompanying sketch (Fig. 1) was taken from the section of an endometrium of a child, aged two. It is an additional demonstration of what Johnstone has already proved, the fibrillar character of the structure and the almost complete absence of cellular development. Contrast with this section one cut from a mucous membrane in any part of the body, and how great the actual histological differences as well as developmental history! As Johnstone has said, the various changes through which the endometrium passes certainly suggest that cell division is not the sole process responsible for the development of normal adult tissue. In the absence of positive proof that the cellular elements of the blood are actively concerned in the restoration of tissue we are forced to accept one of two conclusions, either that the restorative process is inexplicable, or that in the silent growth of the granule to the fully developed cell we have adequate interpretation of a seemingly complex process. If we do not accept this interpretation, how can we explain the replacement of the fibrous lining of the infantile uterus by what we may call the corpuscular endometrium of the adult organ. If we examine under the microscope sections of the endometria of women who have died during the period of menstrual activity or during pregnancy we find nothing to warrant us in classifying the endometrium with membranes of the mucous type. Curiously enough, it was once supposed that the ovaries were simply tubular glands, and while that has been disproved we might with far more propriety than was justified in the classification of the ovaries transfer the description to the uterus.

It is interesting to compare the normal adult endometrium with the endometric development of pregnancy. The normal endometric changes during menstruation consist in a casting off and subsequent renewal of the corporeal columnar epithelium without any true solution of continuity. It will be remembered that the process is confined to only a portion of the epithelium lining the utricular follicles, and the cervical cells are left intact, as well as the epithelium of the tubes. In the formation of the decidua of pregnancy similar changes occur, differing only in degree, the decidua vera and reflexa remaining perfectly distinct at the cervix. The analogy does not cease here, for it is now known that the changes of the glandular epithelium during pregnancy are largely limited to the cells nearest the mouths of the glands and in the intra-glandular tissue which is filled with the large decidual cells of Friedlander. The cervix is supplied by the spinal nerves, while the body is under the control of the sympathetic, and probably, as we shall see later, of contained automatic ganglia. With these facts in mind we are warranted in regarding the renewal of the endometrium as a physiological and not as a pathological process. To attribute to a mucous membrane the power of self-denudation and self-renewal has no analogy in any part of the body. The appearance of the endometrium during the intra menstrual epoch is most indicative of its adenoid character, for there is such a disappearance of the cellular elements that it strongly suggests the infantile fibrillar endometrium observable before menstruation begins. Even in the carnivora and herbivora, toward the end of the rut, as Johnstone first pointed out, and as we have ourselves observed, similar changes occur; an increase of the fibrillar and a decrease of the corpuscular elements. Preceding the œstrum, as well as menstruation, the opposite condition exists, the corpuscular element increases while the fibrillar decreases or is stationary. We have seen this strikingly exemplified in the deer family.

In women the menstrual flow is preceded by the endo-

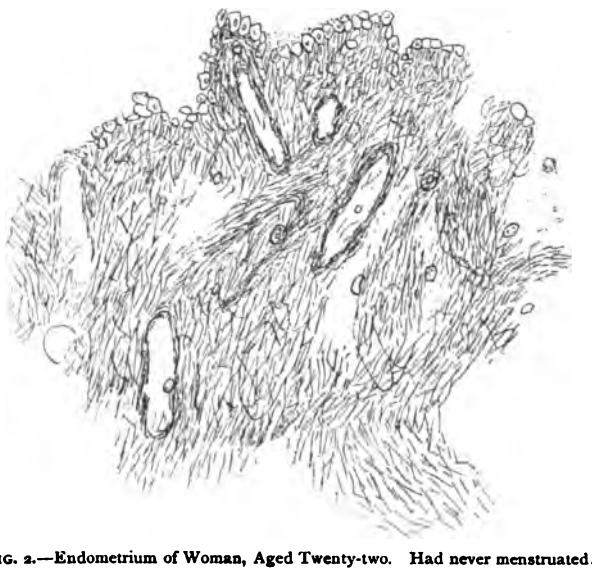

FIG. 2.—Endometrium of Woman, Aged Twenty-two. Had never menstruated.

metrium passing through a preparatory stage differing in degree only from the hyaloid condition antecedent to the formation of the placenta. Again we are indebted to Johnstone, for he suggested the term hyaloid used in this connection and pointed out the striking analogy between the histological changes preceding the formation of the placenta and the changes which result in the transformation of osteoblasts into the hyaloid condition in the formation of bone. In this connection we cannot refrain from referring to the interesting experiments of Tinzoni and Fileti in determining the regenerative capacity of glandular tissue, for the process they have observed in the repair of glands like the spleen seems to be similar to

the process that takes place in the endometric changes preceding menstruation. Figs. 2 and 3 are taken from the fresh sections of the endometria of two women, aged twenty-two and twenty five respectively, neither of whom had ever menstruated. The fibrillar character of both sections is marked, and they resemble an infant's endometrium. Compare with these sections one from the endometrium of a woman who had menstruated regularly, and who, at time of death, was thirty years of age.

FIG. 3.—Endometrium of Woman, Aged Twenty-five. Had never menstruated.

The comparative abundance of the fibrillar, in Figs. 2 and 3, over the corpuscular development shown in Fig. 4 is very noticeable. From the absence of the granular character of the fibres and of corpuscular development, we would be justified in calling Figs. 2 and 3 "infantile."

When we study the endometrium as an adenoid structure we can define with far more exactness than has hitherto been done its relation to menstruation. As Johnstone has shown, the menstrual flow prepares the endometrium for the reception of the ovum just as the œstrum with its attendant increases in the lymphatic circulation

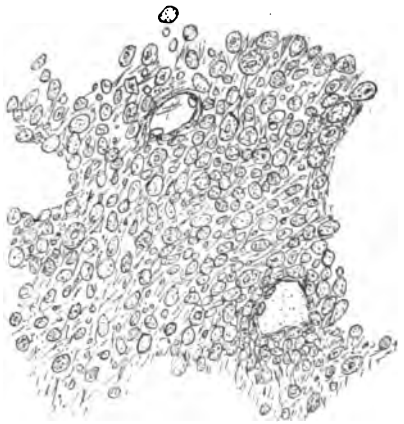

FIG. 4.—Endometrium of Woman, Aged Thirty. Menstruation regular.

does in the lower animals. A normal impregnated ovum may reach the uterine cavity, but if the endometrium has not been prepared for its reception, but has retained its infantile fibrillar character, the ovum will not become attached and will die. The fact that the menstrual flow in women replaces the increased lymphatic circulation of the lower animals is not the sole point of dissimilarity in comparative sexual physiology. We cannot longer introduce "the erect posture" as a distinguishing feature to account for the differences between menstruation and the œstrum. The "erect posture" has done its service for comparative anatomy and physiology as well as for sociology and ethics. Everything that distinguishes man from the lower animals has been accounted for by the "erect posture." We are not without warrant, both from anatomy and physiology, in putting something more into the scale of differentiation between menstruation and the œstrum, and that something is the nervous system as developed in the human subject. Nature has been most lavish in the nerve-supply of the human uterus as compared with that of the lower animals. It is interesting to note that only that portion of the sexual tract which loses its epithelium during menstruation, that covering the body and fundus, is supplied by the sympathetic. The fine nerve-fibres follow the helicoid arteries, and in this perhaps we may find an explanation of those functional cases of amenorrhœa which are apparently without cause and often unattended by other symptoms than the simple absence of the menstrual flow. It would be out of the limits of this paper, however, to refer to pathological conditions except so far as they throw light on the anatomy and physiology of the endometrium.

That the functions of the endometrium are governed by automatic ganglia in the uterus itself has received confirmation in a most interesting series of researches conducted by Dr. Robinson. We observed some of the same rhythmic changes in the uterus of a woman which had been removed by abdominal hysterectomy that Dr. Robinson saw in the cow's uterus, changes which seem to be analogous to the rhythmic movements of the heart due to Bidder's and Remak's ganglia. These movements, by their cyclic or rhythmic character, were quite distinct from muscular contractions due to purely physical causes. It is well known that such movements occur in the pregnant uterus, but we do not know of their having been noted in the non-gravid organ.

To recapitulate, then, we have endeavored, 1, to show the dissimilarity between menstruation and the rut—structural as well as functional differences; 2, to emphasize the adenoid character of the endometrium; and 3, to substitute for "the erect posture" as a factor in menstrual physiology the agency of the nervous system with its complex supply from spinal, sympathetic, and ganglionic sources. Recent investigation to prove that the agency of the nervous system has been somewhat underestimated in its effect in governing the menstrual flow, for troubles dependent upon its control, are not as uncommon as were once supposed among primitive peoples, as the American Indian or some of the African tribes.

Why Helmholtz Studied Medicine.—In the course of his speech at the "Commers" given in his honor recently, Helmholtz related how he was gradually led up to the study of medicine as a sort of last resort. "I was," he said "a nervous, sickly boy. I was thirsty for knowledge, but I was handicapped by a shockingly bad memory. For philology and history I was incapacitated by this defect. I liked geometry and could remember it, because it was a logical whole, but yet I had a longing for something more real. Then I came to physics, which I liked, but physics was then a poverty-stricken science, so I had to give it up; and so I was brought eventually to the study of medicine."

The Tenement-House Inspection by the New York Sanitary Police, completed November 1st, shows 38,358 tenement- and smaller apartment-houses, of which 2,391 are rear houses. They contain 276,565 families, embracing 1,225,411 individuals, of whom 160,708 are children under five years of age. The larger apartment-houses, or family hotels, not included in this enumeration, amount to 149, and contain 2,476 families, embracing 9,793 individuals.

A Generous Bequest.—Professor C. Wedl, the well-known histologist of Vienna, who died recently, has left the whole of his estate, amounting to 100,000 florins, to the Mathematico-Physical Section of the Vienna Academy of Science, of which he had been a corresponding member since 1849.

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AN IMPORTANT DECISION.

IN 1885 a Mr. Hartt, who had been a patient at the New York Hospital, brought suit against that institution for alleged ill result following an operation performed upon him by Dr. W. T. Bull, one of the surgeons to the hospital. This suit was tried before Judge Barnard and a jury at White Plains, the question being as to whether the surgeon had performed the operation skilfully or not. A verdict was rendered in favor of the hospital.

During the past year the plaintiff brought another suit, on the same grounds, against Dr. Bull. This suit came before Judge Morgan J. O'Brien, last week, the defendant's counsel, Mr. Austen G. Fox, putting in the plea that as the suit had already been brought against the hospital, and had failed, the plaintiff had no standing in court, his case having been finally disposed of.

In this view the Judge concurred, rendering the following decision :

"It seems to me that, upon the facts as they are now presented, the action made by counsel for the defendant for a direction of a verdict in his favor should be granted.

"The action was originally brought against the New York Hospital for the alleged negligence of one of its doctors. The question then at issue was fairly and fully presented during the trial of the case as to the negligence of the doctor, and upon that there has been an adjudication in favor of the hospital.

"It seems to me upon every principle that it is in the interest of justice, and in accordance with public policy, that after a man has had his day in court, and has been granted and accorded every opportunity of fully and fairly presenting his case, and after he has made his election and tried his case, that he should not be allowed to come in court and try the same question over again.

"Concededly, the liability of the hospital in that case, if it was a liability at all, was a derivative one, being a legal liability resulting from the fact that it had connected with this hospital this doctor, the defendant in this case, no matter on what theory, whether upon the doctrine of election, or whether privy or party to the act or not.

"Besides, putting the matter on the broad ground of public policy, the whole purpose and policy of the law is to put an end to litigation, and this is one of the cases to which that principle should be applied, namely, that when once a man has had his day in court, and had an opportunity of fully and fairly presenting the question at issue, he should not be allowed a second trial for the purpose of presenting the same question to the consideration of the jury.

"The question is a new one in this State. It has been passed upon in other States, but the precise question has not been passed upon here.

"I will direct a verdict for the defendant and require the exceptions to be heard in the first instance at General Term."

Let us see what might result in case a different view had been taken. Given a case in which, during the absence of the regularly appointed surgeon to a hospital, and the tenancy of a *locum tenens*, an operation is performed by one of the house-surgeon's assistants with unfavorable result.

The patient brings suit against the hospital corporation, and failing, sues the attending surgeon. Unsuccessful in this, he sues the *locum tenens* as representative of the surgeon. Then, in turn, the house-surgeon and the latter's assistant.

The same case would go before successive juries, each time upon the same merits, but with a different defendant. The inconvenience and expense at which the hospital and its surgeons would be placed can well be imagined.

It is a principle in law that in failure of an action against the master for the act of a servant the same suit cannot be brought against the servant. Judge O'Brien, in his decision, looks upon the hospital as the master, and its medical officers as its servants. The man who pleads malpractice must elect whom he will proceed against, and must abide by the result of that trial.

THE KAISERBRUNN OF TÖLZKRANKENHEIL, AND HOW IT WAS MADE.

THE cable brings an amusing tale, which is at least *ben trovato*, from Germany concerning a quick-witted scamp who turned to his own advantage the passion of his countrymen for mineral-water cures of one kind and another. The man was a civil engineer, and one day, when jobs were getting scarce, he conceived the truly brilliant idea of affording relief to suffering humanity by means of an iodine mineral water. There have been philanthropists of the same sort long before this ingenious gentleman came upon the scene, but they simply mixed up a lot of more or less poisonous or inert drugs and put them up in variously labelled packages wrapped up in clergymen's certificates. That is good enough in its way, and is often as profitable for the maker of the nostrum as it is injurious to the taker thereof. Some even go further and present each suffering purchaser of their compound chromos of rollicking babies or of placid and healthy-looking nonagenarians. But this benevolent thaumaturgist would have nothing to do with art, for nature was his hold. His customers should feast their eyes on nature and drink only nature's remedy.

And this is how he did it. He purchased a tract of land in the town of Tölz, on the Tzar River, twenty-five

miles from Munich, and already blessed with some wonderful healing springs. Through this territory ran a small stream, which the engineer dammed up and then conducted through a hidden tunnel. At its point of issue he constructed a deep well, filled it with rocks and allowed the water to bubble up, giving it the appearance of a natural spring. The water he treated freely with chemicals, announced the discovery of a new iodine spring, got favorable opinions from experts, and advertised extensively in the papers.

The new spring was loyally christened the Kaiserbrunn, and a company was formed, with the discoverer, or rather creator, at its head to exploit it. The fraud was a success from the start. Capital poured in and a brand new Kursaal with its dependent villas was built. The Kaiser was fast becoming a formidable rival of the older springs. It was visited by thousands of invalids who thirsted for iodine and wanted it good, and the water was bottled and sent all over Europe. The thing was a grand success, and the promoter and everybody connected with him were rapidly growing rich, when the whole business was spoiled by one foolish director. His suspicions were somehow aroused that all was not just as a strictly honest man would like to have it, and so he determined to search for the truth, where it may sometimes be found—at the bottom of a well.

And then came the end, for the investigation which was instituted promptly exposed the origin and the character of the alleged spring. The waters still bubbled up, but the bubble had burst.

The question presents itself, Why should that particular spring be abandoned? The patients who had drank the water, and bathed in it, and recovered their health by dieting and rest, were doubtless just as much benefited as they would have been had the water been naturally impregnated with iodine. Why should their successors be denied this means of recovery just because the water of this spring received its mineral constituents a little nearer the surface of the earth than is usual? This is an interesting world and man is an entertaining study. We all like oleomargarine as long as we believe it to be pure dairy butter.

THE WIDER USE OF LOCAL ANÆSTHESIA.

Dr. C. Scleich, of Berlin, has recently put in a plea for the more extensive use of local anæsthesia in surgery, and as illustrative of its possibilities has reported five laparotomies done under cocaine. Dr. Scleich lays stress on the utility of weak solutions. His laparotomies were done with one-fifth of one per cent. solution of the drug. He states that the maximum amount of cocaine that can be safely injected is one and one-half grain. In cases in which the skin is inflamed the surface is first benumbed with an ether spray. Since June last Dr. Scleich has performed two hundred and twenty-four operations under local anæsthesia, without any toxic symptoms being produced. Mention is made of the fact that water and various substances other than cocaine will cause local anæsthesia when injected hypodermically. Thus a thirty per cent. solution of sugar, as well as a one per cent. solution of methyl violet causes endermically complete anæsthesia, and in the same way a two per cent. solution of potassium bromide, a two per cent. solution of caffeine, and a 0.1 per cent. solution of morphia acted as marked anæsthetics. He thinks it the duty of surgeons generally to make use of local anæsthesia in place of general narcosis wherever it is practicable, and he urges his colleagues to subject his method to a rigorous test, for the more perfect the technique of the method the more perfect and free from objection will be the results.

CIGARETTES.

The cigarette industry of this country has for some time been in the hands of a syndicate or trust which now controls the manufacture of about ninety-seven per cent. of all American cigarettes. The total yearly output of cigarettes, according to a writer in *The Sun*, is now about two hundred and forty billions. This gives about eight thousand a year to each of the male population; but naturally a good many are exported. There have been many attempts made to prevent the use of cigarettes by minors, and laws for this end have been enacted in thirty States already. But they are, it is said, ineffective, especially in cities.

A great deal has been charged to the cigarette unjustly. It has been asserted that it causes insanity, consumption, premature death, etc. It is very unwise to attempt to create exaggerated views of an evil concerning which the plain facts are bad enough. These facts are sufficient, and on these alone public educators ought to dwell. Cigarette-smoking is injurious to boys; and inhaling the smoke is injurious to persons of all ages. These two facts ought to be fully known and appreciated, especially by parents and teachers. It is a reproach to the latter class that at present one of the first things learned at boys' schools is to smoke cigarettes.

The practice of inhaling is, as we have before stated in these columns, very widespread and extremely pernicious. Cigarettes can be smoked by adults with as much impunity as cigars or pipes, if the smoke is not drawn into the lungs.

The Austrian Medical Chamber.—A new council, to be called the *Aerztekammer*, has been established by Act of Parliament in Austria. It will examine the character and conduct of its members, expunging names after sufficient testimony; it will also regulate the fees of medical men and lay down laws for the profession respecting benefit societies, insurance examinations, etc. Different medical societies have been endeavoring to have such a council created for the last twenty years.

The Influenza in Germany.—Professor Leyden and Dr. Guttmann have issued the following appeal to their professional brethren: "The report of the committee appointed by the Society for Internal Medicine to collect information concerning the influenza pandemic of 1889–90 is already in the printer's hands, and will be published very soon. As a new influenza epidemic is raging in various districts with great virulence, and it seems desirable to supplement the report with information regarding the time and place of its appearance, the character of the present epidemic, its duration, etc., our professional brethren are urgently requested to support the endeavors of the committee to the best of their ability by sending us short communications on these points."

News of the Week.

The Jenkins Medical Society, of Westchester County, N. Y., celebrated its twenty-fifth anniversary at the Yonkers Club House, Yonkers, N. Y., Monday evening, December 21st. There was a large attendance of members and invited guests, and the occasion was an enjoyable one. The Society was named in honor of the late Foster Jenkins, of Yonkers, who was a leading practitioner of Westchester, a distinguished sanitarian, and ex-President of the Medical Society of the State of New York.

The Students at the University of Moscow are said to be on the eve of one of their periodical outbreaks and are consequently under constant surveillance by the police. Among one of the curious rules laid down by the authorities is that no more than seventy students shall be allowed to attend any single theatre the same evening. Numbered tickets are sold to the students at the box-office, and each purchaser must give his name and furnish other means of identification, so that in case of disturbance the authorities will know who were concerned in it.

He Wants His Body Back.—A man in Massachusetts was very hard up some twenty years ago, and was glad to sell his body, to be delivered at death, for ten dollars. Since then, however, he has made a comfortable fortune, and now wants to buy back the deed of his body. The former purchaser is reluctant to sell for any small amount, holding off for a rise, and it is now only a question of how much the man thinks his corpse will be worth.

Yellow Fever is raging in Santos and Rio Janeiro, and nearly every vessel that returns to this port from Brazil is detained at the Quarantine station for disinfection. The Advance, which arrived on Monday of this week, had had four deaths from yellow fever on the voyage, and seven persons sick with the disease had been sent ashore at Bahia. The officers of the steamer say that they have never seen so severe an epidemic as that now raging, the recently arrived immigrants being those chiefly affected. Of these, it is said that many die in the streets uncared for, and that scarcely one has escaped.

The Association of Military Surgeons of the National Guard of the United States.—The second annual session of this Association will be held at St. Louis, April 19, 20, and 21, 1892. An interesting programme of addresses by surgeons of the National Guard and the United States army has been arranged; a number of scientific papers on military and accidental surgery will be read and discussed, and all matters pertaining to the health, usefulness, and welfare of the civilian soldiers will receive attention.

Montreal Medico-Chirurgical Society.—At the annual meeting of this Society, held on October 23d, the following officers were elected for the term 1891–92: *President*, F. Buller, M D.; *First Vice-President*, James Stewart, M.D.; *Second Vice-President*, E. P. Lachapelle, M.D.; *Treasurer*, J. A. McDonald, M.D.; *Librarian*, T. D. Reed, M.D.; *Secretary*, Kenneth Cameron, B.A., M.D.; *Council*, James Perrigo, M.D., Wesley Mills, M.D., James Bell, M.D.

A Hypnotizer in Jail.—A man, calling himself Dr. Vint, has been sentenced to three months at hard labor in England, for giving exhibitions of alleged hypnotism. It seems that there is a law there to punish anyone who pretends to tell fortunes, or to deceive or impose upon any of her Majesty's subjects.

Dr. J. Howard Tracy, formerly of Honesdale, Pa., died recently at Escanaba, Mich., aged forty seven years.

Worshipping the Bottles.—A story is told in the *Nursing Record* concerning the touching conversion of some Burmese. A zealous well-known lady missionary, in one of her tours, came to a village where cholera was raging. She had a number of bottles of a "noted pain-killer" with her, which she apparently dispensed with great liberality to the stricken villagers, and, leaving a further supply for future use, went on her way. Some months afterward she returned to the same village, and was met by the head man with the following gratifying announcement: "Teacher, we have come over to your side; the medicine did us so much good that we have accepted your religion." The highly delighted missionary followed the man to his house, and there in an inner room she beheld a stately row of the pain-killer bottles ranged solemnly on a shelf, and before these all present —saving, presumably, the missionary—prostrated themselves in worship. The story ends there, and is not spoiled by any account of the good lady's efforts to disentangle the simple but logical ideas of cause and effect in her new converts' minds.

A Hospital for Convalescent Phthisis Cases is to be erected by the Berlin authorities on the outskirts of the city.

A Very Young Woman.—Dr. Overstreet, of Live Oak, Fla., writes to the *Atlanta Medical and Surgical Journal*: "We have a little girl in this county four years old who is a fully developed woman in every respect, and was that way at two years and nine months. Can this be excelled in any land or country?" She ought to meet the Indiana prodigy, a boy of six, who gives lectures on anatomy.

Dr. Samuel C. Robinson, of Brooklyn, died on December 25th, aged sixty-two.

Dr. Roswell Park Collin, of this city, died on December 21st, after a protracted illness. He was thirty-nine years old.

Syphilis in Paris.—At the close of the World's Fair at Paris it is stated that that city had within its limits 50,000 women with syphilis.

Scandinavian and German Morality.—Professor Saved Ribbing, of the University of Lund, some time ago gave the association of students a series of three lectures on sexual hygienic laws and their results. These lectures were subsequently published in a pamphlet, which has just been translated into German by Dr. Oscar Reyher. The reviewer in the *Medicinische-Chirurgische Rundschau* protests against an observation of the translator, to the effect that most of the descriptions of Professor Ribbing are equally applicable to Germans. In his opinion the

erotic instinct is much less developed in the young people of Germany than in those of other nations. Even in Scandinavia the increase of sexual excesses seems to be of recent occurrence, and is due to circumstances the proper appreciation of which is difficult for those at a distance.

Another Heart Tonic, resembling digitalis, is the tincture of coronilla varia, recommended by Dr. Poulet, of Planches-les-Mines; and tincture of coronilla scorpioides, recommended by MM. Spillmann and Haushalter.

The Death of Professor F. Bouchut, of the Medical Faculty of Paris, is announced.

Compulsory Vaccination and Revaccination in Italy.—A new vaccination law will come into operation in Italy on January 1, 1892. Arrangements are made under it for the cultivation and supply both of humanized and of animal lymph. All children except those who have already had small-pox, or who are medically certified to be in ill health, must be vaccinated within the solar half-year subsequent to the date of their birth; and where renewal of any such certificate of unfitness is in question, the child must be inspected by the official vaccinator, with whom the final decision will rest.

Is Dentistry a Dangerous Profession?—Dr. Buxton, in the *Dental Record*, asserts that dentists suffer to an unusual degree from neurasthenia, nervous debility, migraine, sciatica, herpes zoster, insomnia, etc. He attributes this to confinement, over-work, and bad air.

The Contributions to the London Hospitals have been $350,000 less than usual during the past year. This is thought to be due partly to the charges of mismanagement, partly to the demands made on philanthropic people by General Booth.

The Influenza in New York City, in 1891, showed itself about the middle of last March and began to decline in the middle of April, but lasted into June. It raised the death-rate but slightly. It reappeared in this city about the middle of October. Since then two or three deaths per week from influenza were reported, but no increase of weekly death-rate has been noticeable, at least up to a week ago. The average weekly death-rate of the city is about seven hundred. During the height of the epidemic of 1889–91 the death-rate for one week was 1,424.

Doctors in the Legislature.—"In no European legislature," says *The Lancet*, "are there so many distinguished surgeons and physicians as in that of Italy. One of the best of her best prime ministers was the 'general practitioner' of Casella in Piedmont, Giovanni Lanza, under whose wise and well-timed policy she transferred her capital from Florence to Rome, while statesmen of Cabinet rank in nearly every administration have been drawn from her men of light and leading in medicine, prominent among whom may be mentioned one of her ablest Ministers of Public Instruction, Dr. Guido Baccelli. Nearly every year she adds to the number of her senators one or more of her chief professors of the healing art, the latest accession to these 'Patres Conscripti' being Dr. Enrico Bottini, who holds the Chair of Obstetrics at Novara. Professor Bottini was for some time Lecturer in Clinical Medicine at the University of Pavia, where he gave such proof of general as well as special ability that he was elected Deputy to the Italian Chamber. From there he has been raised to the senate."

The Influenza is present in certain parts of England and Scotland, Berlin, Poland, St. Petersburg, Hamburg, Bordeaux and some other widely scattered areas. It is said to be present in some cities of this country, and to be developing in this city.

The Ohio State University Trustees are carefully considering the advisability of establishing a medical department. That a medical department will somehow be organized, in the near future, seems very certain.—*Columbus Medical Journal.*

An Interesting and Instructive Malpractice Suit was recently terminated in the Philadelphia courts (*Medical News*). On March 15, 1889, the plaintiff visited a market in West Philadelphia, and, accidentally stepping on a knife, the point was thrust through the tendo Achillis. She immediately summoned Dr. A. F. Chase, who, finding a narrow punctured wound with but little separation in the tendon, and no bleeding, carefully dressed the parts, with the foot extended so as to relax the gastrocnemius. The wound healed, with evidence of separation of the tendon of about a quarter of an inch. The butcher before whose stall the accident happened was anxious to make all reasonable amends, but the plaintiff could not be satisfied, and brought a suit against him. Before the suit could be brought to trial he sold out his business and left for parts unknown The plaintiff then consulted her lawyer with reference to bringing suit against the market company. This he assured her would be useless, and, finding that suit was to be brought against the attending physician, the lawyer gave up the case. About this time the plaintiff, desirous of getting outside medical testimony, engaged a carriage, was driven to a well-known hospital, was carried tenderly into the "out" surgical department, and, after the examination, was again carried tenderly back to her carriage, having, as she thought, gained some important medical testimony as to what would have been proper treatment of the original injury. She also engaged the hospital surgeon to attend her at her home. Unfortunately for her, but quite the reverse for the defence, it was observed that in the evening of the same day the plaintiff was seen to leave her home and walk to a neighbor's, apparently as if nothing had happened to her. Fortified with additional medical testimony, counsel was again employed, and action brought against Dr. Chase, in March, 1890. The trial was postponed, however, and finally the plaintiff was non-suited.

The Plague is reported to have broken out in the Government of Kazan, in Russia, among the famine-stricken peasantry.

An Elderly Mother.—Dr. Derasse, of Liege, recently attended a woman in confinement who gave birth to a bouncing boy when she was fifty-nine years and five months old.

Practice was Dull.—Two burglars, who were recently caught trying to blow open a bank safe in an Illinois village, were found to be the village physicians, and now there is an opening in the place for an honest doctor.

Society Reports.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, June 10, 1891.

H. M. BIGGS, M.D., PRESIDENT, IN THE CHAIR.

Calculous Pyelo-nephritis.—DR. H. J. BOLDT presented a specimen of this condition, and it was particularly interesting on account of its clinical features. The patient had come to him for an operation on a vesico-vaginal fistula, and previous to the operation had given no history, or presented any symptoms referable to the kidneys. There was no pus in the bladder or coming through the fistula, and as the existence of the fistula made it necessary, in order to secure accurate results in an examination of the urine, that the ureters be catheterized, it was thought safe to omit this examination. The patient was under ether about half an hour. Three or four days after the operation she died, with all the symptoms of renal disease. Owing to the constant dribbling away of the urine the bladder was extremely small, and its elasticity destroyed. The opening of the ureters was easily seen, and there was no constriction of either ureter. The right ureter contained considerable pus. The right kidney was large, the mucous membrane of its pelvis was congested, and this cavity was filled with pus. A stone of considerable size was found here. Scattered through the kidney were small abscesses, and considerable portions of kidney-tissue had been destroyed. The left kidney was somewhat smaller, but presented much the same appearance, except that gravel took the place of the stone.

DR. J. H. LINSLEY said that the unfortunate termination of the case just reported made it seem desirable to insist once more upon the frequency with which nephritis is developed after an etherization. Several cases had come under his observation in which careful examinations of the urine at intervals, for a period of six months before an operation, had been absolutely negative, and yet after a rather prolonged administration of ether a nephritis was promptly established; in fact, even before the completion of the operation the first indications of this condition, hiccoughs, were present. In these cases the urine showed the usual characteristics of this condition—all the varieties of casts, granular degeneration, and fatty globules—and the post-mortem examination still further confirmed the diagnosis.

DR. H. J. BOLDT also presented a uterus which he had removed from a patient by vaginal hysterectomy. The patient, a married woman, thirty-three years of age, had had one child, and no miscarriages or abortions. For eight years previous to coming under his care she had been suffering from intense pains in the ovarian and lumbar regions, increasing in severity with menstruation, which was irregular and very profuse. A small ovarian cyst was removed from the right side by laparotomy. The after-treatment consisted in the use of various hygienic measures, the administration of hydrastis canadensis and of tonics internally, and locally, in intra-uterine positive galvanization, and the introduction of tampons. Although temporarily improved, she soon began again to suffer from severe pain and profuse uterine hemorrhages, and these not proving amenable to treatment, a second laparotomy was undertaken. The operation was rendered quite difficult by the existence of extensive and firm adhesions. There was a pyo-salpinx of the left tube, and a hæmatoma of the ovary. She was not improved by this operation, but, on the contrary, began to suffer not only from pain, but from most obstinate and distressing nausea and vomiting, and her general nutrition was rapidly and seriously impaired. All ordinary treatment seemed unavailing, and although her condition was so critical that it was thought she would die from the shock of another operation, such a procedure was decided to be the last, although certainly a dangerous, resort. It being evident that the uterus was the seat of the trouble, this organ was removed by vaginal hysterectomy. As was expected, the extensive adhesions to the omentum and intestines made this operation one of great difficulty, as well as gravity; but fortunately the patient rallied, and during the week which had elapsed since this operation was performed, there had been no return of the previous symptoms, and she now appears to be convalescing favorably. A microscopical examination of the specimen showed the case to be one of glandular endometritis and chronic metritis.

The speaker added that the case was one of more than usual clinical interest, inasmuch as this was the first one on record in this country in which a chronic metritis had caused such a complex and serious condition, and had not only caused the patient endless suffering, but had actually jeopardized her life. Although the treatment was radical, and at first sight seemed hardly justifiable, the result had proved the wisdom of the treatment adopted.

DR. W. P. NORTHRUP presented a card specimen showing a very remarkable tearing up of the lung in a baby of two months, as a result of an interstitial emphysema produced by severe whooping-cough. The section was taken from the right upper lobe, and the whole of this lobe was a honeycombed mass, while the middle and lower lobes were simply pneumonic. The left lung contained nothing worthy of note, except a small amount of emphysema. The speaker said this was the only specimen of its kind which he had met with out of hundreds of autopsies upon children.

Tuberculosis of Ovaries and Tubes.—DR. H. P. LOOMIS presented gross and microscopical specimens of this condition. The ovaries and tubes had been removed by Dr. Polk and sent to him for examination. The patient, who was twenty-seven years of age, had enjoyed good health up to six months previous, when she began to suffer from abdominal pains, and after being curetted by some physician, a pelvic peritonitis developed. When seen by the speaker, three weeks after the laparotomy, there was nothing to indicate pulmonary tuberculosis, and Dr. Polk assured him that there were no indications of this disease about the pelvic organs. There was no ascites.

The specimen was seen to be made up of dense fibrous tissue, and contained small cavities filled with cheesy material. The tubes were dilated to the size of the forefinger, and contained the same material. The microscope showed areas of coagulation necrosis, surrounded by broad bands of connective tissue, which contained numerous giant-cells. No tubercle bacilli had been found in the sections.

Dr. Loomis considered that many cases diagnosticated as purulent ovaritis were really instances of tuberculosis of the ovary.

DR. BOLDT said that he had seen a number of such cases, and in every case of tuberculosis of the uterine appendages ascites had been present.

THE PRESIDENT said that nearly all the cases which he had observed had been associated with tuberculosis of the uterus, and Italian observers had succeeded in finding the tubercle bacilli in the uterine discharges. There had been no ascites in his cases. Quite recently he had seen a case very similar to the one just presented, except that it was not so extensive. The operator, Dr. Lusk, had questioned his diagnosis of tuberculosis of the tubes and ovaries, but shortly afterward the patient developed a tubercular peritonitis, and died.

DR. H. P. LOOMIS also exhibited a lung which presented a somewhat puzzling condition. While there was no positive evidence of its being tubercular, he was of the opinion that it was probably an instance of cured miliary tuberculosis. There was no history. At the autopsy the left lung was found compressed against the vertebral column, and the left pleural cavity was filled with sero-fibrinous fluid. The other lung showed advanced tuberculosis, and contained a cavity at its apex. The left lung was solid, and contained no air, and the

pleura was thickened. On section, the whole surface of this lung was found studded with small nodules, the upper lobe being converted into a solid mass of dense, firm, fibrous tissue, of a slaty color. The speaker presented some microscopical specimens taken from two different portions of this lung. They showed these nodules in the centre, undergoing coagulation necrosis, and around these were bands of connective tissue with pigmented deposits in the outer zones of this tissue. Between these nodules were compressed air-cells, with much fibrous tissue in their walls.

The speaker said that he could recall at least two cases in which tuberculosis had ceased to advance as soon as the pleural cavity had become filled with fluid, and he thought that the shutting off of the air from the lung, while the circulation continued, might have been sufficient to excite a connective-tissue hyperplasia, which would limit these nodules and prevent a further extension of the tuberculous process.

DR. NORTHRUP called attention to the fact that some of the small bronchial lymph-nodes were very dark-colored.

THE PRESIDENT was of the opinion that the specimen was an example of "miners' phthisis," or anthracosis, associated with compression of the lung from the pleural effusion. He could not recall any case, however, in which there was such an extensive fibrous formation around the nodules. He suggested that sections from other portions of the lung be subjected to examination, and the result reported to the Society at some future meeting.

The Society then adjourned.

Correspondence.

A DANGEROUS MATERNAL IMPRESSION.

To the Editor of the Medical Record.

SIR: It is a strange thing how the subject of "Maternal Impression" seems to have taken hold of medical literature. Wherever one looks he finds an article on "Maternal Impression." Will you allow me to communicate a case which has fallen under my own observation. You will find it a rather singular one, and difficult of belief, but I vouch solemnly for the truth of it. There is a little place in the State of Missouri, which, as my story is true, I will not call by its own name, but by that of Abdera. Thither came, some years ago, a young physician, good-looking, of fine address, *l'oreille rouge et le teint fleuri*. He was soon a favorite and an oracle in some of the best families. In due time it happened that a number of children all over the city were found to be strikingly like in features to this young Æsculapius You can easily fancy the talk which arose; even the benevolent in secret shook their heads and meditated. But soon unexpected light was thrown upon the matter. There came a private lecturer—a lady—who explained to her feminine audience—she lectured only to ladies—that oftentimes even the careful and modest ministrations of a much-esteemed physician produce on the maternal mind an impression materially transmitted to the unborn offspring. This solution was adopted, and great relief was experienced in consequence.

NON JUDÆUS APELLA.

THE PHYSIOLOGICAL RELATION OF ALCOHOL TO FOOD.

To the Editor of the Medical Record.

SIR: Under this heading, in the issue of the MEDICAL RECORD dated December 12, 1891, attention is called to Table VII., which appeared in my original article having the above title. Table VII. is spoken of as "at least remarkable," and its authenticity somewhat called in question.

In reply I would say that Table VII., as found in my original article in the 17th of October issue of the MEDICAL RECORD, was taken from Professor John C. Dalton's "Human Physiology for Students and Practitioners," sixth edition, 1875, p. 127. Philadelphia: Henry C. Lea.

Further in reply I wish to say that the "laws of nature," as referred to in my original article, are chemical and physiological phenomena which govern the human economy.

These phenomena are carefully studied in clinical practice, and when fully recognized justify the formulation of a theory, and when an applied theory uniformly disperses symptoms, changes the abnormal and by-products in the urine to the normal excrementitious substances, I hold we are further justified in asserting the existence of a natural law.

WILLIAM HENRY PORTER, M.D.

FIVE AT A BIRTH.

To the Editor of the Medical Record.

SIR: In your esteemed journal of December 12th is an inquiry for any record of an American woman giving birth to five children at one confinement. In 1882, while practising at Findlay, O., a case came to my knowledge of a quintuplet birth, three of the progeny breathing but a short time, and the other two surviving some months. This case occurred at the County Poor Farm, and the husband of the woman was at the time classed as "totally disabled," on the Government pension rolls, being nearly doubled from rheumatism.

GEORGE C. MOSHER, M.D.

KANSAS CITY, MO.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 19, 1891.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	27	5
Scarlet fever	175	33
Cerebro-spinal meningitis	4	4
Measles	126	17
Diphtheria	149	39
Small-pox	0	0
Varicella	2	0
Pertussis	0	4
Erysipelas	2	0
Mumps	0	0
Rötheln	0	0

A Persistent Lady Doctor.—A conflict has been going on for some time past between the authorities of the Department of the Seine and a lady named Schicklé, who is practising as a physician at Billancourt under the name of "Dr. Verneuil." Proceedings were taken against her, on the instigation of the local doctors, and she was fined five hundred francs. She paid the fine and calmly resumed her consultations. Fresh complaints were made, and a fresh summons was issued against her. She tore up the paper and sent the pieces back to the Public Prosecutor. She also wrote letters to various authorities, stating that she had passed examinations in the nervous and mental disorders of women, and was greatly complimented on her knowledge. Several attempts have been made to arrest her, but hitherto they have been fruitless. She is greatly liked and protected by the inhabitants of the district, and they have invariably prevented the police from getting at her. What will be the ultimate issue it is impossible to say.

The Parasite of Irregular Malarial Fevers.—Dr. M. W. Sakharoff (*Ann. de l'Inst. Pasteur*, July 25, 1891) has a note on certain parasites occurring in the blood of patients suffering from irregular malarial attacks. These are different from those found in the "regular" fevers, being small, pale bodies enclosed in the blood-corpuscles, endowed with amœboid movements, and assuming a round shape when at rest. In course of development this amœboid condition undergoes the following modifications: Pigment granules appear, mobility is gradually lost, and the form becomes round. The granules unite into a mass at one side or in the middle of the parasite, and a nucleus previously visible can be no longer seen. During this time the parasite increases in size, but always remains smaller than the blood-corpuscle, of which a large portion is unoccupied. After a time fission commences, and this may be observed in blood drawn from the finger (the parasite described by Marchiafava in connection with regular malaria only divides in the internal organs and not in shed blood). This fission takes place in the interior of the corpuscles, after which the segments, from four to sixteen in number, escape, and either remain free or become enclosed in leucocytes. In these latter further development very rarely occurs. This is the normal life-history, but two modifications may be at times observed: 1. Sometimes the course is more rapid, and fission begins before pigment formation. 2. At other times new crescentic forms appear, and the disease assumes a chronic course. This is a highly interesting form, and one about which there has been some controversy. The author believes (1) that in cases in which these occur the fever seldom assumes a recurrent form. He considers (2) that usually these crescentic bodies are not developed, although at the commencement the amœboid parasites may be present in enormous numbers. He states also (3) that these crescentic bodies may be found in the blood of patients suffering from an irregular attack, but are very seldom seen in the course of a regular malaria. These crescents change gradually into oval or round bodies. Generally also, as the author has proved by actual observation, some of these round bodies develop a number of motile filaments, at least in preparations outside the body; finally they disappear and leave no trace. Attempts to cultivate the parasites have all failed. Fowls also showed themselves insusceptible, and the parasite has not been found in their blood, although these are said to suffer from the malaria. In the blood of some geese, however, affected in an extremely malarial district of the Caucasus, the author found a hitherto undescribed spiral parasite. He is making further researches on this parasite.

Handkerchiefs for Consumptives.—Dr. A. Tucker Wise, writing in *The Lancet* of November 14, 1891, advises the use of cheap handkerchiefs dipped in a solution of nitrate of potassium, which offer a cleanly and safe means for the disposal of infectious expectoration where a spittoon is not at hand, as they are burnt after use. Their advantages are: 1. The expectoration is maintained moist for some time by the potassium salt, and cannot blow about as dust. 2. A handkerchief can be rapidly destroyed by throwing it on the fire, or even setting it alight in a grate with a piece of newspaper. 3. The cost is not great, varying of course with the quality of the handkerchief used, and there is nothing unusual in the appearance of the handkerchief. At meal times their use is an obvious convenience. Whatever theory may be held regarding the danger of sputum dust, the writer says, the above method appears to be practical and cleanly, and more likely to be adopted when the cost is about the same as washing.

Leprosy in Japan.—According to the native journals there has been a great increase in the number of lepers in that country in recent years, and considerable alarm is felt on that account.

Where the Big Men Grow.—The *Telegram-Herald* of Grand Rapids says that the tallest men of Western Europe are found in Catalonia, Spain; Normandy, France; Yorkshire, England, and the Ardennes districts of Belgium. Prussia gets her tallest recruits from Schleswig-Holstein, the original home of the irrepressible Anglo-Saxons; Austria from the Tyrolese highlands. In Italy the progress of physical degeneration has extended to the upper Apennines, but the Albanian Turks are still an athletic race, and the natives of the Caucasus are as sinewy and gaunt as in the days of the Argonauts. In the United States the thirty-eighth parallel, ranging through Indiana and Northern Kentucky, is as decidedly the latitude of big men as the forty-second is that of big cities. The tallest men of South America are found in the western provinces of the Argentine Republic, of Asia in Afghanistan and Kaypooana, of Africa in the highlands of Abyssinia.

Cremation.—It will interest cremationists to hear that the Japanese, who some time ago adopted burial of the dead, in imitation of European nations, have reverted to their own custom of burning the dead on account of its sanitary recommendations. That the practice is in a fair way to gain favor in England, appears from the unexpected measure of support given to it at the recent meeting of the British Medical Association. Sir William Moore went as far as to say that "Christian burial" was worse than the Parsee system of exposing bodies to the vultures. Several of the doctors went to what seems an extreme length in describing the insanitary effects of a graveyard in the neighborhood; and one case was cited from India where an outbreak of cholera had occurred through the digging up of an old cemetery in making a railway.—*Indian Medical Gazette.*

Long Fasts in India.—A correspondent of the *Times of India*, referring to recent long fasts in this country, says that in India fasts of thirty to forty days are common among the Jains, from among whom, once in each year, some individual comes forward and undertakes to fast thirty-five, forty, and even sixty days. They do this with nothing but warm water to drink, and will die rather than take food during the prescribed period. Quite recently two Jains of Bombay fasted, one for sixty-one the other for forty-eight days, at the end of which time, having been congratulated by twenty-five thousand Jains who went for the purpose, they recommenced taking food in the manner prescribed in their own books and shastras. On September 22d, in commemoration of this event, all the chief bazaars in Bombay were closed, and about five thousand Jains, male and female, fasted all day, while a large sum was spent in securing the release of cows and other animals from the slaughter-house at Bandora.

Suicide in the Armies of Europe.—Dr. Langer has been investigating the subject of suicide among the soldiers in European armies, his statistics including the years from 1875 to 1887. The largest number of suicides occurred in the Austrian army, averaging 122 a year in each 10,000 soldiers. Next to Austria is Germany, which averaged 63 suicides to every 10,000 soldiers. In the Italian army on the average 40 soldiers in every 10,000 committed suicide every year. The French army from 1872 to 1889 lost in Europe 29 soldiers to every 10,000 annually, and in Algeria it lost just twice as many by suicide. In Belgium there occurred 24, in England 23, in Russia 20, and in Spain 14 to every 10,000. The cause of suicide in the army appears in most cases to be the fear of punishment, though not a few are driven to the act through aversion to military service and despair of ever being able to return to civil life.

Dr. E. von Esmarch, son of Professor v. Esmarch, of Kiel, has been appointed Professor of Hygiene in the University of Königsberg, in the room of Professor C. Fränkel, who has gone to Marburg.

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